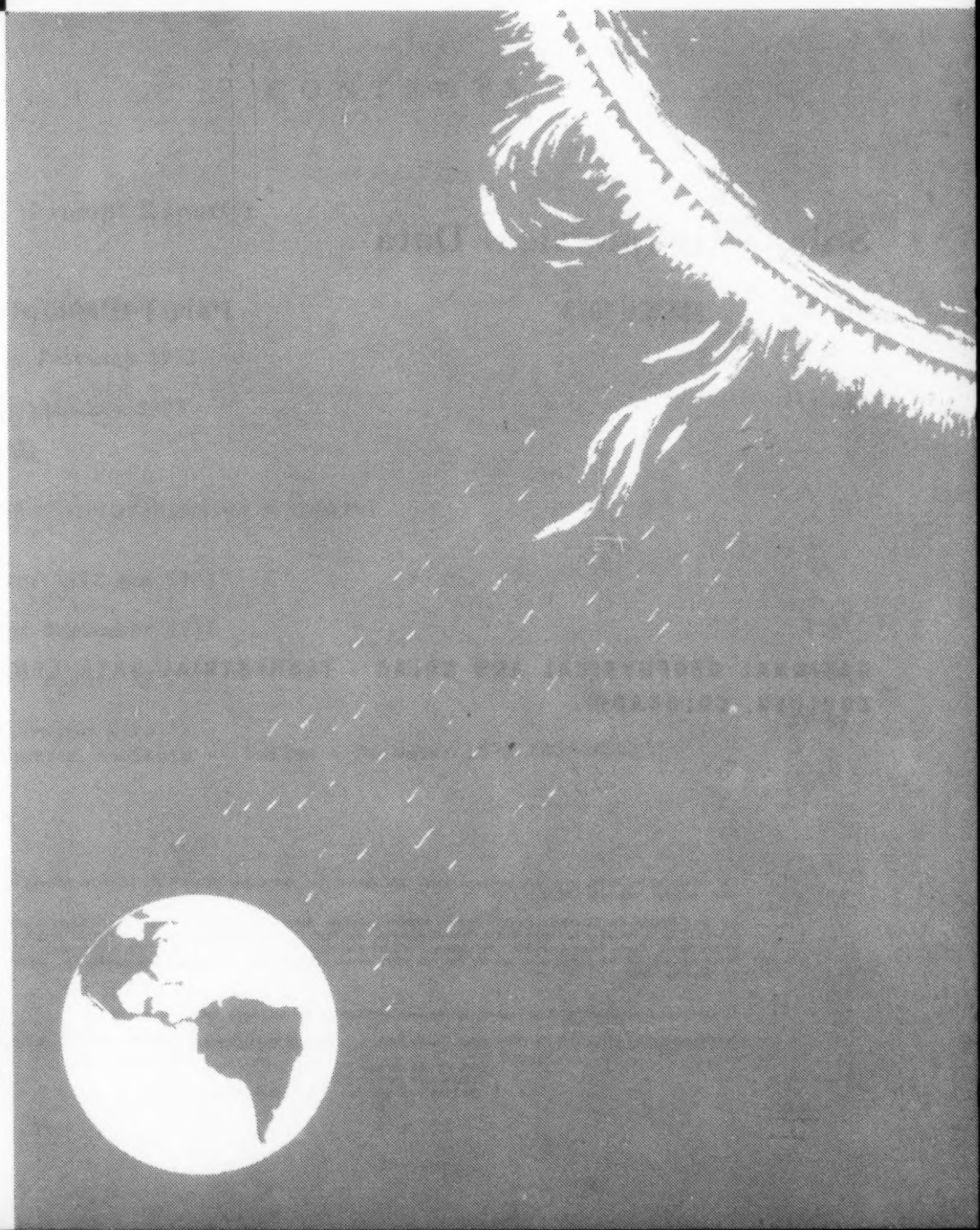
A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

SOLAR-GEOPHYSICAL DATA
(prompt reports)

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Data Service



MARCH 1973

NUMBER 343-PART I
DATA FOR
FEBRUARY 1973
JANUARY 1973

U.S. DEPARTMENT OF COMMERCE
Frederick B. Dent, Secretary
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
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Solar - Geophysical Data

NO. 343 MARCH 1973

Part I (Prompt Reports)

DATA FOR
FEBRUARY 1973
JANUARY 1973

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

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SOLAR - GEOPHYSICAL DATA

No. 343

Issued in two parts

Hope I. Leighton, Editor

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CONTENTS

Part I (Prompt Reports)

	Page
Index for 1972 and 1973	2
Data for February 1973	3-19
Data for January 1973	21-114

Part II (Comprehensive Reports)

Index for 1972 and 1973	2
Data for September 1972	3-56
Data for August 1972	57-65
Miscellaneous Data Neutron Monitors -- Dallas - December 1972 (Addenda)	67-69

INDEX FOR 1972 - 1973 DATA PUBLISHED IN "SOLAR-GEOPHYSICAL DATA"

		1972 Aug	Sep	Oct	Nov	Dec	1973 Jan	Feb
A.	Solar and Interplanetary Phenomena							
A.1	Sunspot Drawings	338	339	340	341	342	343	
A.2a	Zürich Provisional Relative Sunspot Numbers R_Z	337	338	339	340	341	342	343
A.2b	Zürich Final Sunspot Numbers R_Z	343	343	343	343	343		
A.2c	American Relative Sunspot Numbers R_A'	337	338	339	340	341	342	343
A.3a	Mt. Wilson Magnetograms	338	339	340	341	342	343	
A.3b	Mt. Wilson Magnetic Characteristics of Sunspots	338	339	340	341	342	343	
A.4	Hα Spectroheliograms	338	339	340	341	342	343	
A.5	Calcium Plage Drawings - McMath (or Catania)	338	339	340	341	342	343	
A.5a	Calcium Plage (McMath) and Sunspot Regions	338	339	340	341	342	343	
A.5b	McMath Daily Calcium Plage Index	338	339	340	341	342	343	
A.7b	Coronal Line Emission	338	339	340	341	342	343	
A.7c	White-Light Corona (NRL OSO-7, 1971-083A)	338	339	340	341	342	343	
A.7d	Solar EUV Spectroheliogram Fe XV 284 Å (GSFC OSO-7, 1971-083A)	338	339	340	341	342	343	
A.7e	Solar XUV Coronograms (NRL OSO-7, 1971-083A)			340	341	342	343	
A.8aa	2800 MHz - Daily Values of Solar Flux (ARO-Ottawa)	337	338	339	340	341	342	343
A.8ac	2800 MHz - Daily Values of Adjusted Solar Flux (ARO-Ottawa)	337	338	339	340	341	342	343
A.8g	15400, 8800, 4995, 2695, 1415, 606, 410, 245 MHz Adj. Solar Flux (AFCRL)	337	338	339	340	341	342	343
A.9a	9.1 cm Radio Maps of the Sun (Stanford)	338	339	340	341	342	343	
A.9b	21 cm Radio Maps of the Sun (Fleurs)	338	339	340	341	342	343	
A.9c	8.6 mm Radio Maps of the Sun (Prospect Hill)	338	339	340	341	342	343	
A.10a	169 MHz - Interferometric Observations (Nançay)	337	338	340	340	341	343	
A.10c	21 cm East-West Solar Scans (Fleurs)	337	338	339	340	341	342	343
A.10d	43 cm East-West Solar Scans (Fleurs)	337	338	339	340	341	342	343
A.10e	10.7 cm East-West Solar Scans (Ottawa-ARO)	337	338	339	340	341	342	343
A.11aa	Solar X-ray Radiation (Explorer 37 or 44)	338	339	340	341	342	343	
A.11ab	Solar X-ray Radiation (Explorer 37 or 44) Graphs	342	343					
A.11e	Solar X-ray Spectroheliograms (OSO-5)	338	339	340	342	343		
A.11f	Solar X-ray Spectroheliograms (GSFC OSO-7, 1971-083A)					342	343	
A.12aa	Solar Protons (Explorer 41 or 43) Daily hourly values	342	343					
A.12ab	Solar Protons (Explorer 41 or 43) Graphs	342	343					
A.12ba	Cosmic Ray Protons (Pioneers 6 & 7)	337	---	339	340	---	342	---
A.12bb	Cosmic Ray Protons (Pioneers 8 & 9)	337	338	339	340	341	342	343
A.12c	Cosmic Ray Protons (ATS-1)	337						
A.13a	Solar Wind (Pioneers 6 & 7)	337	---	339	340	341	342	---
A.13c	Solar Wind (Vela 6B)							
A.17	Interplanetary Magnetic Field (Pioneer 8)	---	---	339	340	---	342	---
A.17	Interplanetary Magnetic Field (Pioneer 9)	337	338	339	340	341	342	343
A.18	Interplanetary Electric Field (Pioneer 8)	---	---	339	340	---	342	---
A.18	Interplanetary Electric Field (Pioneer 9)	337	338	339	340	341	342	343
B.	Ionospheric (and Radio Wave Propagation) Phenomena							
B.51ca	High Latitude Quality Figures and Forecasts	338	339	340	341	342	343	
B.51cb	High Latitude Comparison Graphs	338	339	340	341	342	343	
B.52	Graphs of Transmission Frequency Range	338	339	340	341	342	343	
B.53	Quality Figures based on Frequency Ranges	338	339	340	341	342	343	
C.	Flare-Associated Events							
C.1a	Optical Observations Flares	337	338	339	340	341	342	343
C.1ba	Optical Observations Flares (Including Standardized Data)	342	343					
C.1d	Flare Patrol Observations	337	338	339	340	341	342	343
C.1e	Flare Indices (by day)	342	343					
C.1f	Flare Index by Region	343						
C.3	Solar Radio Waves - Fixed Frequencies - Outstanding Occurrences	342	343					
	Solar Radio Waves - Fixed Frequencies - Selected	337	338	339	340	341	342	343
C.3t	43.25, 80 and 180 MHz Selected Bursts (Culgoora)	342						
C.4aa	10-2000 MHz - (Fort Davis)	338	339	340	341	342	343	
C.4b	7.6-80 MHz - (University of Colorado)	338	339	340	341	342	343	
C.4d	8-8000 MHz - (Culgoora)	338	339	340	341	342	343	
C.4e	30-1000 MHz - (Weissenau, G.F.R.)	338	339	340	341	342	343	
C.4f	24-48 MHz - (AFCRL, Sagamore Hill)	338	339	340	341	342	343	
C.5b	Solar X-ray Radiation (Explorer 35)							
C.5c	Solar X-ray Radiation (Explorer 44)	338	339	340	341	342	343	
C.6	Sudden Ionospheric Distrubances	338	339	340	341	342	343	
D.	Geomagnetic and Magnetospheric Phenomena							
D.1a	Geomagnetic Indices Ci, Cp, Kp, Ap - Selected Days	338	339	340	341	342	343	
D.1b	27-Day Chart of Kp Indices for Year	342	342	342	342	342		
D.1c	27-Day Chart of C9 for Year	342	342	342	342	342		
D.1d	Principal Magnetic Storms	338	339	340	341	342	343	
D.1e	Reduced Magnetograms	342	343					
D.1f	Sudden Commencement and Solar Flare Effects	338	339	340	341	342	343	
F.	Cosmic Rays							
F.1a	Cosmic Ray Neutron Counts (Deep River)							
F.1b	Cosmic Ray Neutron Counts (Climax)							
F.1c	Cosmic Ray Neutron Counts (Dallas)	338	339	340	341	343	343	
F.1d	Cosmic Ray Neutron Counts (Churchill)							
F.1e	Cosmic Ray Neutron Counts (Alert)							
F.1f	Cosmic Ray Neutron Counts (Calgary)	338	339	340	341	342	343	
F.1g	Cosmic Ray Neutron Counts (Sulphur Mountain)	338	339	340	341	342	343	
H.	Miscellaneous							
H.60	IUWDS Alert Decisions	337	338	339	340	341	342	343
H.62	Abbreviated Calendar Record	343						

FEBRUARY 1973 DATA

Contents

	Page
Alert Period	
IUWDS Alert Periods (Advance and Worldwide)	5
Daily Solar Indices	
12-Month Tables Sunspot Numbers, R_z, and 2800 MHz Flux Adjusted to 1 A.U.	6
Combined Table Sunspot Numbers and Solar Fluxes	7
Graph of Sunspot Cycles	8
Zürich Smoothed Observed and Predicted Sunspot Numbers	9
Solar Flares	
Flares of numerical Importance 1 or Greater	10
Subflares	11
No-Flare-Patrol Chart	12
Solar Radio Waves	
169 MHz Solar Interferometric Chart - Nancay	13
10.7 cm East-West Solar Scans - ARO, Ottawa	14
21 cm East-West Solar Scans - Fleurs	15
43 cm East-West Solar Scans - Fleurs	16
Selected Fixed-Frequency Occurrences	17-18
Spacecraft Observations	
Pioneer 6, 7 and 8 (not available)	
Pioneer 9	19

For explanations of the data contained herein see "Descriptive Text" published as supplement to February 1973 "Solar-Geophysical Data" (Number 342).

ALERT PERIODS

INTERNATIONAL URSIGRAM
AND WORLD DAYS SERVICE

FEBRUARY 1973

FEB. 1973	TIME OF ISSUE UT	ADVANCE GEOPHYSICAL ALERT	WORLDWIDE GEOPHYSICAL ALERT	
			NO.	TYPE INCLUDING FLARE ACTIVITY EXPECTED
01	0400			ONE QUIET; SOLNIL; STRATWARM EXISTS SIBERIAN ARCTIC. HIGHLY BAROCLINIC POLAR VORTEX BECOMING ELONGATED BICELLULAR.
02	0400			TWO QUIET; SOLNIL; MAJOR STRATWARM SIBERIAN ARCTIC SYSTEM MOVING TOWARD POLE. WARMING NOW AFFECTING EASTERN NORTH AMERICA ABOVE 35 KM.
03	0400			TWO QUIET; SOLNIL; MAJOR STRATWARM SYSTEM NOW STRETCHING OVER POLAR REGION INTO WESTERN HEMISPHERE.
04	0400			TWO QUIET; SOLNIL; STRATWARM SYSTEM PROGRESSING OVER POLAR REGION
05	0400			ONE QUIET; SOLNIL; STRATWARM SYSTEM AND RIDGING OVER POLAR REGION WITH ANTICYCLONIC CIRCULATION WELL DEVELOPED ABOVE 50 MB.
06	0400			FOUR QUIET; SOLNIL; MAJOR STRATWARM SYSTEM AND ANTICYCLONE OVER POLAR REGION.
07	0400			THREE QUIET; SOLNIL; MAJOR STRATWARM SYSTEM OVER POLAR REGION WITH SOME MID STRATOSPHERIC WARMING EUROPE AND EAST PACIFIC.
08	0400			FOUR QUIET; SOLNIL; POLAR STRATWARM SYSTEM DIMINISHING SLOWLY.
09	0400			FIVE QUIET; SOLNIL; POLAR STRATWARM SYSTEM GRADUALLY COOLING MAXIMUM WARM ANOMALY NEAR 30 MB.
10	0400		10476	SOLALERT; N08E26, N11E23 ERUPTIVE; THREE QUIET; STRATOSPHERIC WARM SYSTEM PERSISTS POLAR REGION.
11	0400		11477	SOLALERT; N08E16, S13E75 ERUPTIVE; THREE QUIET; POLAR STRATWARM SYSTEM DIMINISHING.
12	0400			SIX QUIET; SOLNIL; STRATWARM ENDS.
13	0400			NINE QUIET; SOLNIL; LOWER STRAT ARCTIC WARM SYSTEM COOLING. TRANSIENT 10 MB WARM CELL OVER CENTRAL U.S. MOVING WESTWARD.
14	0400		14478	MAGALERT 14/15 MINOR; EIGHT QUIET; SOLNIL; STRATWARM ENDS. MINOR WARMING CONTINUES LIMITED REGIONS UPPER STRAT MID LATITUDES AS ARCTIC REGION GRADUALLY COOLS. EXPECT REESTABLISHED POLAR VORTEX MID FEB.
15	0400			N15W64 ERUPTIVE; SEVEN QUIET; SOLNIL
16	0400			N16W77 ACTIVE; S17E14 ERUPTIVE; THREE QUIET; SOLNIL
17	0400			S09E20 ERUPTIVE; FOUR QUIET; SOLNIL
18	0400			THREE QUIET; SOLNIL
19	0400			S08W03 ERUPTIVE; ONE QUIET; SOLNIL
20	0400			TWO QUIET; SOLNIL
21	0400			THREE QUIET; SOLNIL
22	0330	BOULDER MINOR MAGSTORM IN PROGRESS 22/0300Z		
	0400		22479	MAGSTORM EXISTS MINOR; MAGALERT 21/22 MINOR; THREE QUIET
23	0400		23480	SOLALERT
			23481	MAGSTORM EXISTS MINOR; N08E87 ACTIVE; THREE QUIET
24	0400		24482	MAGSTORM EXISTS
			24483	SOLALERT; N08E75 ACTIVE; THREE QUIET
25	0400		25484	MAGSTORM EXISTS MINOR
			25485	SOLALERT; N06E63 ACTIVE; S14W69 ERUPTIVE; FOUR QUIET
26	0400		26486	MAGSTORM EXISTS MINOR
			26487	SOLALERT; N06E49 ERUPTIVE; THREE QUIET
27	0400		27488	MAGSTORM EXISTS MINOR; N07E34 ERUPTIVE; ONE QUIET; SOLNIL
28	0400		28489	MAGSTORM EXISTS MINOR; N07E20 ERUPTIVE; THREE QUIET; SOLNIL

RELATIVE SUNSPOT NUMBERS

ZURICH, R_z

1972 FINAL — 1973 PROVISIONAL

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
1	50	53	77	48	28	85	68	103	127	78	75	48	45	7
2	47	49	83	43	39	96	74	93	99	65	67	31	53	17
3	49	42	86	43	32	105	82	89	79	73	49	28	55	22
4	50	44	79	38	34	121	91	85	78	73	30	24	60	21
5	54	45	69	42	49	139	104	93	88	67	23	21	72	41
6	55	48	64	56	68	115	95	85	81	57	19	18	83	32
7	53	45	69	71	79	99	91	65	73	54	8	24	66	34
8	50	54	61	73	78	98	82	60	71	52	7	29	60	53
9	39	58	79	79	97	79	75	59	59	34	14	42	78	60
10	29	52	79	82	94	68	64	47	46	30	12	53	95	61
11	22	57	72	74	88	63	62	31	43	34	38	61	92	59
12	27	60	73	80	92	52	74	50	36	23	33	64	32	80
13	28	71	85	74	106	48	84	55	32	15	30	67	35	83
14	37	85	98	63	133	62	80	48	37	8	27	69	15	85
15	40	104	110	67	123	88	61	42	45	14	21	71	10	74
16	37	129	104	68	125	98	53	57	53	34	25	66	11	54
17	45	135	109	95	140	105	59	59	44	38	32	71	27	36
18	54	144	104	59	133	95	55	57	38	28	28	58	42	28
19	61	158	103	58	127	86	66	57	33	44	42	49	47	18
20	69	157	107	65	115	92	96	68	47	68	58	54	68	38
21	78	154	107	77	96	100	66	62	68	69	65	67	62	31
22	89	157	102	81	79	97	69	65	69	78	69	59	62	25
23	105	136	114	83	65	92	65	79	65	85	79	57	68	33
24	121	112	109	82	58	88	62	82	77	94	77	48	58	38
25	102	93	98	88	56	83	62	71	82	105	68	43	39	48
26	91	88	95	83	52	77	77	79	78	111	57	39	27	37
27	92	79	34	63	44	79	82	93	77	110	55	34	8	36
28	101	85	29	58	44	81	86	110	67	104	61	26	14	36
29	132	87	38	38	58	78	102	147	78	89	47	25	7	
30	72		38	22	79	78	108	141	75	98	43	29	16	
31	56		37		85		115	137		93		37	13	
MEAN	61.9	88.4	88.1	63.2	88.5	88.8	76.5	76.8	64.8	61.3	41.6	45.3	42.2	42.1

1972 yearly mean = 68.9

DAILY SOLAR FLUX AT 2800 MHz
OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_a

1972 — 1973

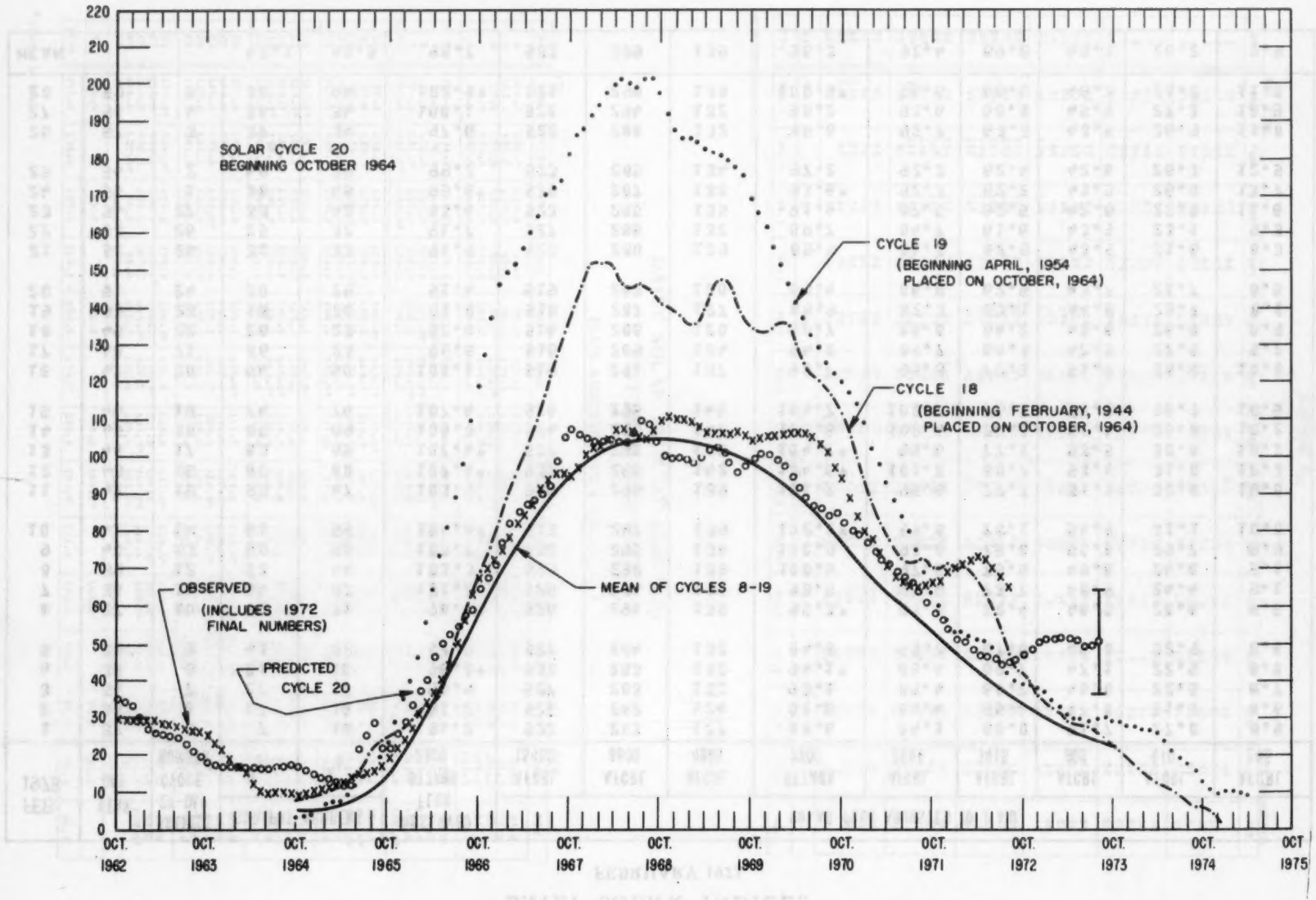
DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB
1	104.7	106.7	125.5	96.8	95.8	128.2	133.8	156.3	144.3	114.7*	129.9	91.1	93.9	88.6
2	103.1	106.5	129.7	97.3	94.9	130.8	137.8	150.4	139.7*	108.4*	121.8*	89.4	98.2	88.6
3	99.6	104.8	131.1	98.1	97.7	137.5*	139.9	147.1*	129.4*	107.3	113.9	85.2	105.1*	93.1
4	97.9	103.1	137.1	101.8	102.7	149.5*	146.7*	146.8	122.8	103.3	115.8	82.3	109.3*	94.1*
5	99.1	102.6	140.6	105.3	108.7	164.8	150.2	146.5	117.8*	100.6	102.6	80.4	113.3	94.3
6	103.1	98.6	143.7	110.1	117.6	159.1	146.1	143.4	119.2	98.4	93.2	77.8	115.8	95.3*
7	99.5	102.2	143.3	121.3	120.9*	152.7	143.2	139.8*	118.4	96.1	85.7	87.1	112.3	98.5
8	98.8	104.3	141.6	123.8	128.8*	150.2*	136.7	125.3	115.9	97.2	82.5	91.6*	103.2	100.5
9	94.3	106.3	137.4	130.5	133.8	149.1*	127.1	123.8	112.9	100.5	82.3	94.7*	103.7	100.9
10	92.3	113.6*	132.5*	136.3	138.3	139.5	121.7	118.6	107.2	94.7	84.7	97.2*	103.6	102.1*
11	95.8	118.4	134.9	129.8	140.8*	143.2*	123.6*	113.3*	102.7	93.5*	88.3	105.1*	102.8	101.2
12	99.6	123.9	128.5	126.3	148.6	149.7	119.3	107.6	100.6	94.7	88.7	108.9	103.5	104.6*
13	99.8	126.3	129.3	128.4*	161.6	138.9*	119.9*	101.7	94.6	94.5	86.7	111.2*	100.9*	104.7*
14	105.8*	136.7	129.7	125.8	162.8	136.5	119.5	97.9	99.5	97.8	85.1	114.8*	96.2	105.6
15	115.4	145.8	135.3	126.0	164.6	139.5*	117.6	97.6	103.4	102.1*	86.5	116.1*	94.6	104.7
16	113.5*	153.2	133.8	124.3	161.8	142.7*	115.1	100.6	103.1	106.2	89.6	118.2	93.8	98.7
17	113.9*	148.2	133.8	120.3	169.3	149.6	114.6*	106.4	100.3	112.1*	91.5	111.9	94.2	94.2
18	110.9	134.4*	131.9	115.7	165.5	149.0*	108.9	109.6	102.6	111.8	94.6	112.4	95.3	90.7
19	115.9*	130.6	131.8	115.4	156.7	143.2*	108.9	116.2	106.2	117.1*	99.7	113.2	94.8	88.9
20	123.8	202.9*	135.2	111.3	152.3	142.5	110.9	117.9	113.2	122.2	109.4	111.4	98.3	89.4
21	127.9	189.6*	135.8	106.9	148.2	139.8*	111.7	119.5	113.4*	132.8*	109.3*	113.4*	97.9	89.9
22	123.2	188.4*	131.2	109.4	143.3	135.1	111.6	127.3*	119.4*	141.7	110.9*	107.9*	98.5	89.7
23	136.3	175.6	140.8*	108.4	135.2	130.7	109.6	122.9*	125.2*	151.2*	115.3*	106.2	97.2	91.4
24	137.2	164.2	126.6	110.2	135.5	128.5	109.5	122.6	126.8	156.5	115.4*	101.1	96.9	93.6*
25	131.8	151.9	116.4	111.6	127.3	125.5	112.4	127.8	126.3*	171.8	112.7	103.3*	95.6	97.2
26	123.8*	149.3*	110.5	109.9	116.3*	120.8	120.6	137.4*	122.5*	170.8*	108.6	97.7	95.3	95.6
27	118.9	148.3	104.1	109.8*	114.3	121.9*	127.2	144.1	118.3*	167.6*	102.3	97.6	93.4	98.2
28	119.5	133.2	101.1	103.2	118.6*	127.3	133.3*	147.2*	116.4	159.1*	97.5	91.9	91.7	100.9*
29	116.1	138.5*	96.5	98.6	116.2	132.4	139.1	163.3*	115.2		92.7	92.8*	91.4	
30	112.9*		98.3	97.8	116.8	134.5	141.2*	163.3	118.5	144.6*	95.1	92.8*	89.7	
31	111.9		95.7		122.5		138.2	154.2*		148.1*		94.3	87.7	
MEAN	111.1	138.4	127.1	113.7	132.5	139.7	126.8	128.9	114.9	120.2	99.7	99.7	99.8	96.3

* adjusted for burst

DAILY SOLAR INDICES

FEBRUARY 1973

FEB. 1973	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	SUNSPOT NUMBERS		OBSERVED FLUX	SOLAR FLUX ADJUSTED TO 1 A.U.								
			R_Z	$R_{A'}$	OTTAWA 2800	AFCRL 15400	AFCRL 8800	AFCRL 4995	OTTAWA 2800	AFCRL 2695	AFCRL 1415	AFCRL 606	AFCRL 410	AFCRL 245
1	32	5	7	10	91.2	522	283	127	88.6	84.1	68.0	51.7	27.8	8.9
2	33	6	17	16	91.2	526	282	128	88.6	84.4	65.4	47.8	21.3	8.6
3	34	7	22	17	95.9	527	283	131	93.1	89.4	68.7	48.0	22.8	8.7
4	35	8	21	16	96.8*	530	283	132	94.1*	89.4	69.7	47.1	22.9	8.5
5	36	9	41	32	97.0	527	284	132	94.3	90.7	67.8	49.8	22.9	8.6
6	37	10	32	31	98.0*	526	291	135	95.3*	93.6	70.4	48.5	28.6	9.5
7	38	11	34	33	101.2	525	294	135	98.5	95.4	73.7	48.9	24.4	9.1
8	39	12	53	44	103.3	525	292	139	100.5	97.6	75.5	49.6	24.6	9.1
9	40	13	60	50	103.7	530	295	138	100.9	98.8	75.8	50.8	29.7	9.9
10	41	14	61	59	104.8*	513	297	139	102.1*	99.8	78.1	54.9	31.1	10.0
11	42	15	59	47	103.9	519	296	139	101.2	95.6	77.7	51.1	30.8	10.0
12	43	16	80	80	107.4*	531	298	142	104.6*	101.2	80.2	53.8	31.0	10.3
13	44	17	83	85	107.4*	527	295	139	104.7*	99.6	77.1	53.5	30.8	10.1
14	45	18	85	89	108.3	524	298	147	105.6	102.4	74.8	51.4	25.8	12.2
15	46	19	74	74	107.4	528	296	146	104.7	102.7	76.1	53.0	26.9	10.6
16	47	20	54	50	101.1	519	291	137	98.7	95.3	72.3	51.2	28.9	10.0
17	48	21	36	23	96.5	516	289	134	94.2	88.7	68.3	47.5	27.9	9.2
18	49	22	28	23	92.8	516	288	128	90.7	86.8	64.0	48.6	26.8	8.9
19	50	23	18	20	91.0	518	287	127	88.9	82.3	63.1	44.5	25.7	8.8
20	51	24	30	29	91.4	519	282	128	89.4	86.0	62.5	43.7	21.7	8.5
21	52	25	31	33	91.9	523	280	129	89.9	84.7	62.9	43.9	21.6	8.3
22	53	26	25	32	91.7	527	285	132	89.7	84.7	61.6	43.9	23.1	9.3
23	54	27	33	42	93.4	523	285	135	91.4	87.5	62.5	42.6	22.5	11.6
24	55	1	38	48	95.6*	525	287	138	93.6*	92.3	62.2	43.9	26.0	13.7
25	56	2	48	39	99.2	523	285	134	97.2	92.3	62.4	42.6	26.3	12.5
26	57	3	37	34	97.6	522	288	132	95.6	92.7	63.3	43.5	26.9	11.8
27	58	4	36	34	100.1	522	294	132	98.2	93.6	68.0	45.9	27.3	10.9
28	59	5	36	44	102.9*	521	290	139	100.9*	96.6	66.6	46.3	28.2	11.5
MEAN			42.1	40.5	98.7	523	289	135	96.3	92.4	69.2	48.1	26.2	9.9



PREDICTED AND OBSERVED SUNSPOT NUMBERS

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS

CYCLE 20

MONTH	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1964										9.6	10.2	11.8
1965	11.7	12.0	12.5	13.6	14.6	15.8	15.5	16.4	17.4	19.7	22.3	24.5
1966	27.7	31.3	34.5	37.4	40.7	44.6	50.3	56.6	63.1	67.6	70.2	72.7
1967	75.0	78.8	82.2	84.6	87.4	91.3	94.1	95.3	95.3	95.0	97.1	100.6
1968	102.6	102.9	104.7	107.2	107.6	106.6	105.2	104.8	107.0	109.9	110.6	110.1
1969	110.0	109.6	108.0	106.4	106.2	106.1	105.8	106.4	105.4	104.1	104.6	104.9
1970	105.6	106.0	106.2	106.1	105.8	105.3	103.8	101.0	97.2	93.9	89.4	84.1
1971	80.4	77.8	74.4	70.9	68.1	66.7	65.4	64.6	65.8	66.2	66.8	69.4
1972	70.8	71.2	72.4	73.4	72.9	70.5	68.1	65.4	65.3 (.3)	65.9 (5)	65.3 (7)	64.3 (9)
1973	63.1 (9)	61.4 (9)	59.3 (9)	57.1 (10)	55.4 (11)	53.3 (12)	51.6 (12)	50.7 (14)	49.0 (15)	46.4 (16)	43.8 (15)	41.6 (15)
1974	40.0 (15)	38.8 (15)	37.8 (16)	36.8 (17)	36.0 (17)	34.8 (17)	33.2 (17)	31.2 (16)	28.9 (16)	26.8 (16)	24.7 (16)	23.1 (16)
1975	21.9 (15)	20.3 (14)										

For each month, the upper figure is the observed or predicted Zürich smoothed sunspot number. The lower figure in parenthesis is the corresponding absolute value of the 90% prediction interval, an indication of the uncertainty above and below the predicted number. Observed numbers are those with no prediction intervals. The observed smoothed sunspot numbers are based on final Zürich numbers through 1972.

The predicted sunspot numbers are derived from a regression analysis based on cycles 8 through 19. Tests indicate that earlier cycles are from a different statistical population. From July 1968 - February 1970 a regression analysis based on cycles 1 through 19 was used because it had not then been proven that two populations exist.

SOLAR FLARES

PARTIAL LISTING

Solar Flares for which at least one observatory has assigned a numerical importance of "1" or greater.

FEBRUARY 1973

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1973 FEB	START	END	MAX. PHASE	APPROX. LAT.	APPROX. LONG. DIST.	CENTRAL DISTANCE	MOUNT PALOMAR PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
TEHR	01	0824	0901	0836	N04	W05	.194	12205	1.8	37	1B	2	C		2.09				S Z
MONT	12	1204	1230D	1224	S11	E18	.314	12224	13.9	26D	1B		C	1224	4.54				
TEHR	12	1205	1303	1222	S11	E18	.314		13.9	58	SN	3	C		1.45				U
CATA	12	1210	1305D	1235	S12	E18	.318	12224	13.9	55D	1B	3		1235	2.60	2.76		(204)	U
ATHN	12	1211E	1239D	1216	S12	E18	.318		13.9	28D	SN	2	V		1.49				U F
CAPS	12	1225	1305		S07	E18	.307	12224	13.9	40	1N	1	S	1226	4.00	4.20		(182)	BU
MEUD	13	1407E	1410D		S09	E63	.886		18.3	3D	SN		C	1409	.62	1.20			E
CATA	13	1410E	1415D	1410	S10	E63	.886	12228	18.3	5D	1N	3		1410	1.16	2.52		(191)	
ISTA	15	0826	0928		S19	W29	.511		13.2	54	SF								G
MANI	15	0901E	0928D	0901	S13	W28	.352		13.9	19D	SN	1		0901	.93	.99			
CATA	15	0905E	0950	0905	S13	W28	.352	12224	13.9	45D	1N	3		0905	2.90	3.11		(186)	
ATHN	16	1105	1146	1118	S09	E23	.389		18.2	41	SF	3	C		1.49				F
TEHR	16	1110E	1139	1112	S10	E28	.467		18.6	29D	SF	3	V		.83				F
ISTA	16	1115	1248		S09	E22	.373		18.1	85	SN								
CATA	16	1115	1135D	1128	S09	E24	.405		18.3	20D	SN	3		1120	1.44	1.58		(178)	
TEHR	16	1209	1233	1213	S10	E27	.452		18.5	24	SN	3	V		.83				F
ATHN	16	1212E	1243	1215	S08	E23	.388		18.2	31D	SN	3	V		1.32				F
WEND	16	1216E	1306		S08	E24	.404	12228	18.3	50D	2F		V		6.19				
PALE	18	2112E	2238	2136	S10	W07	.132	12228	18.4	86D	1N	2	C		2.07				DE S
ATHN	19	0809E	0739	0625U	S08	W13	.224	12228	18.3	90D	1B	2	V		2.15				U F
CATA	22	1508E	1510D	1505	S11	W58	.842	12228	18.3	18D	2F	1		1505	3.19	5.95		(138)	
MANI	22	2358E	0018	2352	N08	E90	1.000	12246	1.7	28D	1B	2		2352					
MITK	23	0221E	0246	0230	N09	E90	1.000	12246	1.8	25D	1N		C	0230	.52				DH
PALE	23	0223	0234	0226	N08	E85	.998		1.5	11	SN	1	V		.62				
MANI	23	0225	0239	0229	N08	E88	1.000		1.7	14	SN	2		0229	.83	2.55			
MITK	23	0250	0306	0258	N09	E90	1.000	12246	1.9	16	1B		C	0258	.52				DH
MANI	23	0254	0306	0257	N08	E88	1.000		1.7	12	SN	2		0257	.83	2.55			
TEHR	27	1049	1122	1052	N03	E21	.396		1.0	33	SN	3	C		1.64				F
MONT	27	1049	1124	1055	N02	E19	.360	12246	28.9	35	1N		C	1055	2.58				
PALE	28	2155E	2227	2159	N07	E00	.245	12246	28.9	32D	1B	3	C		2.26				DE S

"Remarks":
A = Eruptive prominence, base at >90°
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No spots visible in the neighborhood.
H = Flare with high velocity dark surge.
I = Very extensive active region.
J = Plage with flare shows marked intensity variations.
K = Several intensity maxima.
L = Filaments show effects of sudden activation.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H or K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in Hα line.
S = Brightening follows disappearance of filament (same position).
T = Region active all day.
U = Close and somewhat parallel bright filaments (|| or Y shape).
V = Occurrence of an explosive phase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide Hα emission.
Y = Onset of a system of loop-type prominences.
Z = Major sunspot umbra covered by flare.

Note: Catania and Capri-S express Maximum Intensities in percent of the local undisturbed chromosphere instead of percent of the local continuum. Parentheses are used to indicate this difference.

SOLAR FLARES

Date, time (UT) and coordinates of Subflares not included in preceding table.

FEBRUARY 1973

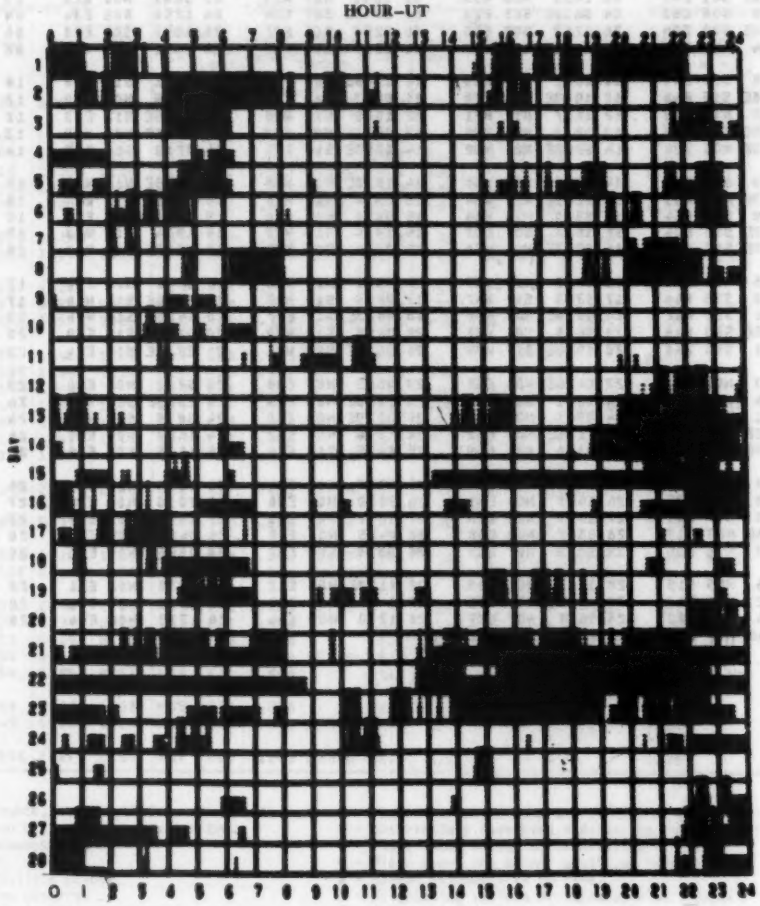
01	0751	N07	E03	01	0847	N06	E02	01	1229	S09	E75	02	1137	N03	W68
02	1824E	S02	E44	02	1830E	S01	E45	02	2323	N09	W23	03	0001	N08	W23
03	1747	S01	E31	04	0410	S03	E63	04	0610E	S03	E23	04	1245E	S07	E34
04	1413	S06	E33	06	1251E	S09	E05	06	1252	S09	E08	06	1253	S06	E07
07	0948	S06	W04	07	1754	N10	E52	07	2150E	S08	W09	08	0107	S08	W12
10	0222	S07	W57	10	0739	S15	E04	10	0851	N07	E19	10	1345E	N08	E16
10	1412E	S12	E45	10	1458E	S15	E45	10	1948E	S16	E78	11	0433	S14	E74
12	1007	S09	W01	12	1016	N13	W20	12	1017	N12	W21	12	1020	N12	W20
12	2048E	N05	W16	13	0109E	S16	E55	13	0829	N06	W28	13	0830E	N08	W22
13	1744E	N09	W28	14	0003E	N06	W30	14	0003E	N04	W32	14	0003E	S14	E35
14	1239	N06	W38	14	1249	N14	W54	14	1250E	N14	W58	14	1520E	N14	W58
15	0142	N15	W61	15	0143E	N15	W61	15	0145E	N17	W64	15	0334	N16	W65
15	0745	N15	W65	15	0909	N16	W64	15	0910	N16	W65	15	0910	N16	W68
15	1608E	S08	E32	15	1612E	S10	E34	15	1828	S08	E32	15	1924	N13	W23
15	2337	S09	E31	15	2337E	S10	E30	15	2337E	N11	W78	16	0208	S08	E36
16	0842E	S15	E10	16	1015	N10	E90	16	1146	N16	W85	17	0631	N12	W88
17	1203	S15	W44	17	1210	S13	W44	17	1305	S17	W47	17	2209	S10	W15
18	0037E	S11	E04	18	0754	S09	W02	18	0814E	N06	W90	18	0823E	S17	E07
20	0349	S14	W47	20	0406E	S13	W48	20	0615	S07	W27	20	0615	S12	W29
20	1247	N08	W75	20	1901	S10	W58	20	1906E	S17	W59	21	0614E	S13	W61
22	0802E	N09	E90	23	0423	N07	E88	23	0426E	N08	E87	23	0623	N07	E88
23	0725E	N08	E87	23	0755	N07	E87	23	1331	S15	W45	23	2306E	N08	E76
24	0210	S10	W63	24	0551	N07	E70	24	0551	N07	E69	24	0729E	N08	E68
24	0938	N05	E64	24	0952E	S11	W70	24	1126E	N04	E62	24	1236	N04	E62
24	2045	N10	E61	24	2325E	N08	E63	25	0316	N08	E59	25	1425	S14	E16
25	2208	N03	E49	25	2208	N02	E50	25	2356E	N17	E73	26	0817	N05	E44
26	0946	N05	E37	26	0950	S03	E35	26	1527	N04	E41	26	2010	N04	E38
27	1142	N05	W29	27	1340	N07	E25	27	1340	N08	E25	27	1342	N08	E31
27	1853	N03	E17	28	0208E	N03	E13	28	0357	N09	E10	28	0405	N07	E08
28	0811	N09	E08	28	0813	N10	E06	28	0818	N07	E08	28	0820	S09	E07
28	1101	N07	E14	28	1106	N05	E15	28	1116E	N07	E13	28	1128E	N06	E12
28	1310E	N07	E11	28	1312	N06	E13	28	1315E	S06	E12	28	1407	N08	E19
28	1545	N08	E02	28	1624	N08	E02	28	1627	N07	E02	28	1732	N09	E04
28	1733	N09	E01	28	1824E	N07	E01	28	2114	N07	W02				

02	1011	S01	E44	02	1011	S01	E44	03	0001	N08	W23	03	0001	N08	W23
03	1745	S01	E32	04	1259E	S07	E34	04	1258	S06	E34	06	1255	S09	E08
06	1835	S07	E04	08	1417E	N15	E26	08	0332	S05	W19				
10	1401	S12	E44	10	1405E	S15	E45	12	0935	N09	W09	12	1004	S10	E78
12	1519E	S17	E53	12	1522	S15	E55	13	1719	N04	W30				
14	0210	S10	E37	14	1026	N03	W35								
14	1905E	N13	W61	15	0857	N15	W60	15	0600E	N15	W64	15	1006	S09	E34
15	1205	S10	E17	15	2005	S13	W25	15	0653E	N10	W04				
16	0625E	N12	W86	16	0653E	N10	W04								
17	1109	S10	E28	17	2246E	S10	E05	19	0347	S13	W47				
20	0900	N09	W72	21	0134E	S16	W72								
23	0725	N08	E88	24	0040	S10	W62	24	0838E	S10	W69				
24	2036E	N08	E64	25	2104	N07	E47								
26	0821E	N06	E37	27	0208E	N07	E32	27	1052	N03	E15				
28	0407	N07	E08	28	1100	N07	E13								
28	1230	N03	E11	28	1310	N05	E15								
28	1537	N07	E01	28	1540	N07	E01								
28	1733	N08	E04	28	1733	N08	E03								

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

FEBRUARY 1973



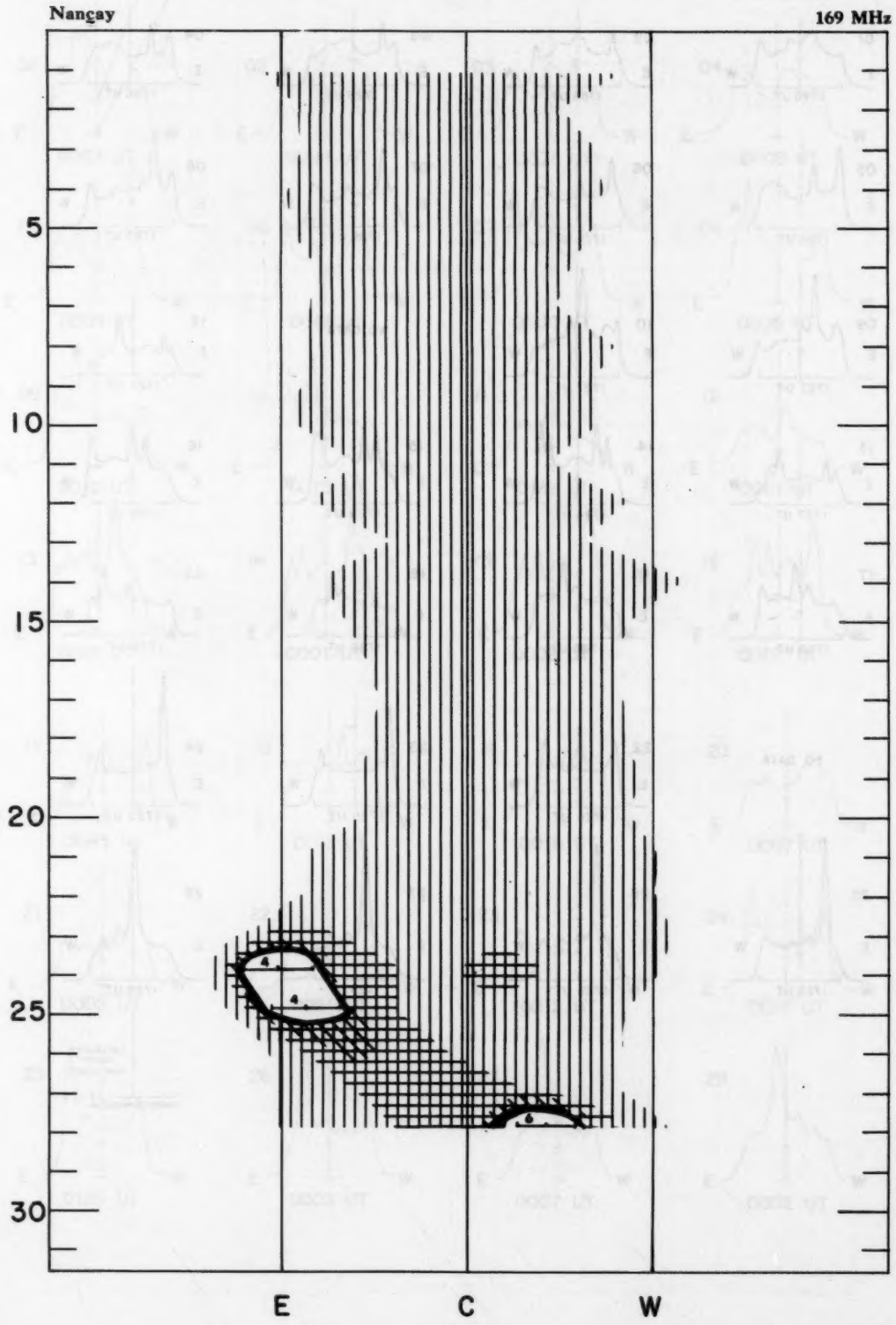
Observatories included in total patrol:

Athenes	Catania	Locarno	Meudon	Ramey
Bucharest	Herstmonceux	Manila	Mitaka	Tehran
Capri-S (Swedish)	Istanboul	McMath-Hulbert	Monte Mario	Upice
			Palehua	Wendelstein

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

FEBRUARY 1973



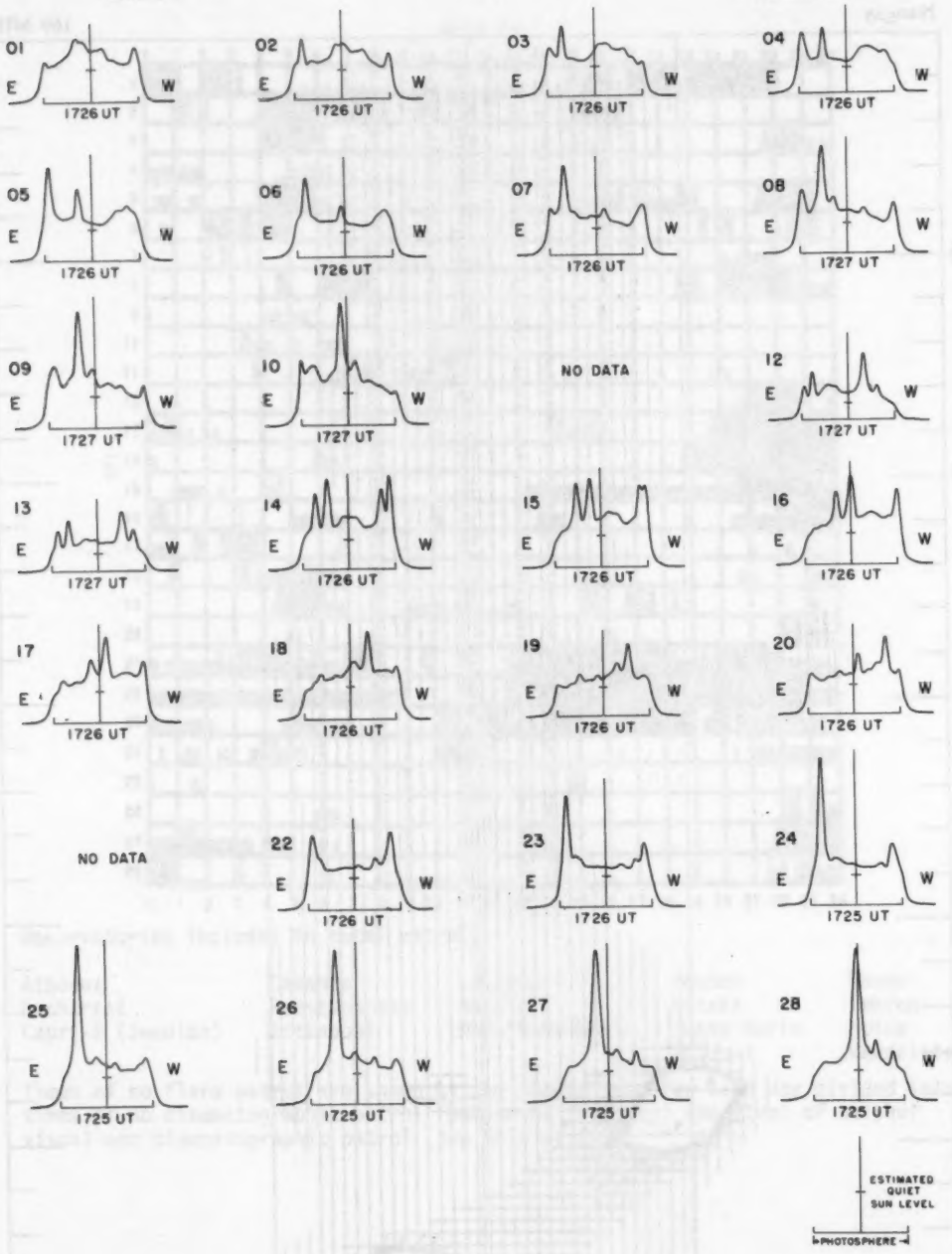
14
Feb 73

EAST-WEST SOLAR SCANS

February 1973

ALGONQUIN RADIO OBSERVATORY
CANADA

Fan-Beam with 1.5 minutes of arc
E-W Resolution



EAST-WEST SOLAR SCANS

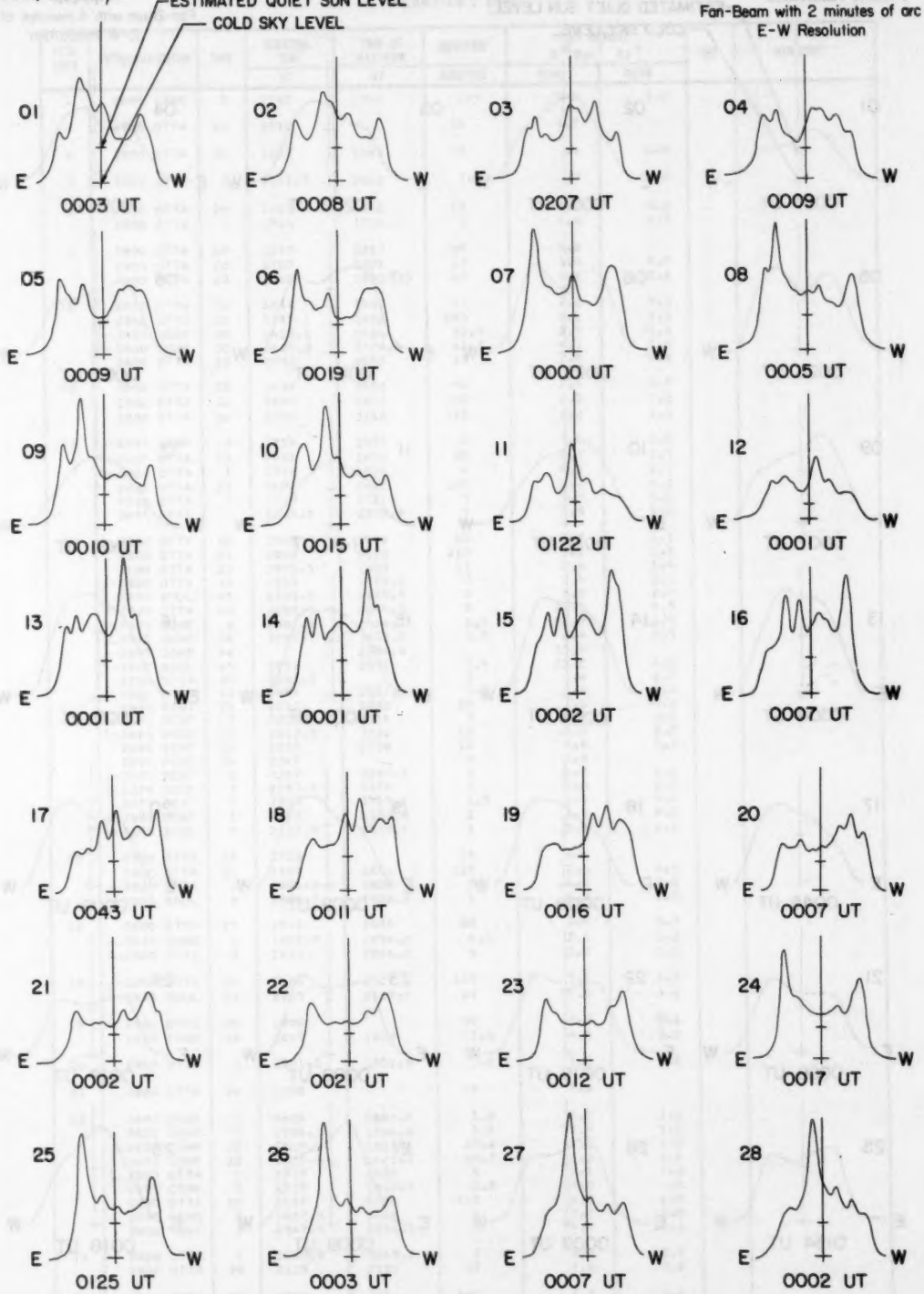
FEBRUARY 1973

Fleurs, Australia

ESTIMATED QUIET SUN LEVEL

COLD SKY LEVEL

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution



16
Feb 73

EAST-WEST SOLAR SCANS

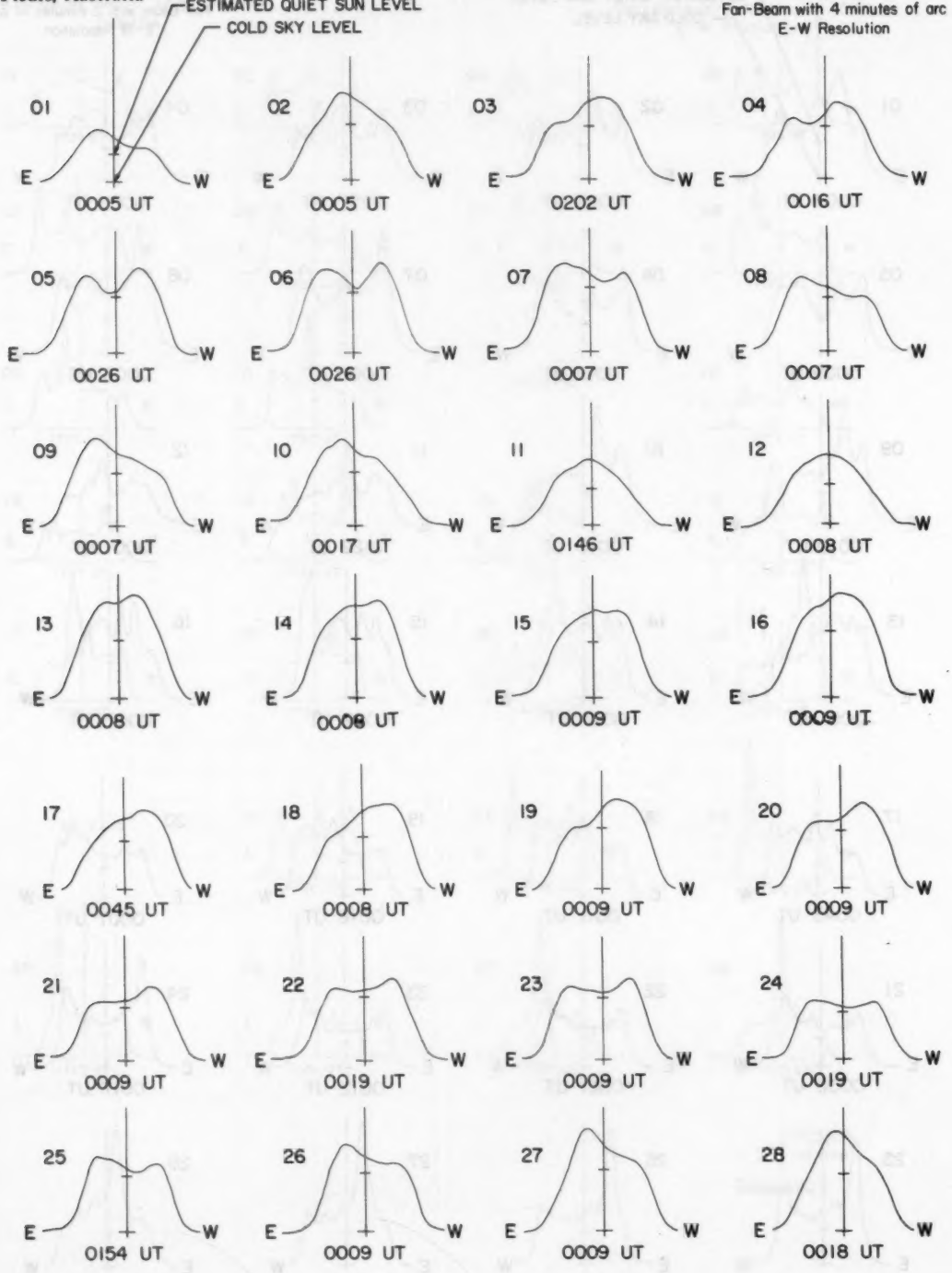
FEBRUARY 1973

Fleurs, Australia

ESTIMATED QUIET SUN LEVEL

COLD SKY LEVEL

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

FEBRUARY 1973

FEB. 1973	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
1	2695 CANR	3	1742	1743	1.5	3.0	1.0		
3	2800 OTTA	24	1430		35	1.7			
4	2800 OTTA	20	1635	1645	40	.8	0.4		
5	2800 OTTA	1	2031.5	2032	1.7	.7	0.4		
6	2800 OTTA	20	1605	1640	60	1.2	0.6		
	2800 OTTA	1	1834	1836.2	4	1.4	0.7		
7	2800 OTTA	40	1253	1257	25	6.6			
	2800 OTTA	20	1703	1708	25	1.0	0.5		
	2800 OTTA	20	1740	1800	45	1.2	0.6		
10	2800 OTTA	20	1342	1347	12	1.2	0.6		
	2800 OTTA	20	1355	1430	195	6.0	3.0		
	2695 SGMR	20	1415.1	1426	52.9	2.5	1.0		
	8800 SGMR	20	1416.3	1426.4	43.3	4.1	2.0		
	2800 OTTA	20	2055	2058	13	1.8	0.9		
12	2800 OTTA	22	1458	1550	90	1.6	0.8		
	2800 OTTA	22	1630	1815	230	2.2	1.1		
	2800 OTTA	20	2035	2140	195	2.2	1.6		
13	2695 CANR	3	1350	1353	6	7.0	3.0		
	2800 OTTA	21	1351	1410	40	2.2	1.1		
	2800 OTTA	1	1353	1354	4	4.2	2.1		
	2800 OTTA	21	1500	1805	250	2.6	1.3		
	2800 OTTA	1	1719	1721	7	1.0	0.5		
	2695 PENT	1	2203.5	2203.8	1	3.8	1.6		
14	2800 OTTA	20	1508	1534	60	2.2	1.1		
	2800 OTTA	23	1830	2020	210	3.2	1.8		
	2800 OTTA	22	1901.5	1903	12	2.4	1.4		
	2800 OTTA	46	1925	1929.3	7	5.4	2.1		
	2695 BOUL	45	1926.5	1929.5	5	6.0	2.0		
	2800 OTTA	46	2050.5	2054.6	5	21.0	5.5		
	8800 SGMR	4	2051.7	2054.7	5.9	51.7	12.0		
	2695 SGMR	46	2051.7	2052.5	4.3	2.4	3.5		
	2695 SGMR	46		2054.6		13.4			
	2695 BOUL	45	2051	2055	7.5	22.0	6.0		
	2800 OTTA	30	2055.5		5	1.4	0.7		
	2800 OTTA	45	2056	2057.2	1.7	1.6	0.8		
	2695 PENT	21	2210	2222	20	1.8	0.9		
	2695 PENT	2	2212.2	2216	5	8.2	4.1		
	2695 BOUL	45	2212.5	2216	12	10.0	3.0		
	2695 PENT	20	2233	2238	10	1.4	0.7		
	2695 PENT	24	2245		6	1.8			
	2695 PENT	1	2257	2257.5	2	1.8	1.0		
	2695 BOUL	3	2257.5	2258	2	5.0	2.0		
	2695 PENT	1	2307	2307.1	1.5	1.0	0.5		
	2695 PENT	1	2322	2322.9	2	1.8	0.9		
	2695 BOUL	3	2322.5	2323.5	2	5.0	2.0		
15	2800 OTTA	26	1715		15	1.4			
	2800 OTTA	21	1800	1830	115	2.0	1.0		
	2800 OTTA	1	1806.5	1808	2	1.0	0.5		
	2695 BOUL	3	1808.5	1808.5	1	3.0	1.0		
16	2800 OTTA	21	1840	1925	80	1.4	0.7		
	2695 SGMR	1	1852.9	1854.2	8.5	2.5	1.2		
	2800 OTTA	1	1853	1854.2	5	2.8	1.2		
18	2800 OTTA	22	2120	2127	130	7.6	3.4		
	2695 BOUL	21	2125	2107.5	44	10.0	3.0		
19	2800 OTTA	20	1700		90	1.2	0.6		
	2695 CANR	45	1837	1839	2.5	4.0	2.0		
20	2800 OTTA	1	1351.3	1351.5	.5	2.2	1.1		
21	2800 OTTA	24	1300		3	1.8			
22	2695 CANR	3	0826	0826.5	1.5	3.0	1.0		
	8800 SGMR	3	1254.3	1254.6	3.5	37.8	7.0		
	8800 SGMR	22	1319.1	1321.6	29.4	5.2	2.0		
	2695 SGMR	20	1319.5	1321.1	30.7	2.2	1.0		
	2800 OTTA	1	1319	1320	4	2.6	1.2		
	2695 CANR	3	1319	1319.5	2.5	3.0	1.0		
	2800 OTTA	20	1435	1525	110	2.0	1.0		
	2695 CANR	3	1637.5	1640	6	3.0	1.0		
	8800 MANI	3	2349.5	2350.3	2	39.9	13.3		
23	2800 OTTA	1	1242.8	1243.2	1	1.2	0.5		
	2800 OTTA	20	2125	2130	10	1.6	0.8		
24	2800 OTTA	20	1520	1610	300	3.8	1.6		
	2695 PENT	1	2323.1	2323.2	1	9.0	2.2		
25	2695 CANR	45	0752	0754.5	5.5	8.0	3.0		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

FEBRUARY 1973

FEB. 1973	FREQUENCY STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
			UT	UT	MINUTES	PEAK	MEAN		
	2695 CANR	3	0815	0815.5	2	6.0	2.0		
	2695 CANR	3	0818.5	0819	1.5	5.0	2.0		
	2695 CANR	3	1644.5	1645.5	2.5	4.0	1.0		
	2695 PENT	1	1645	1646	2.5	2.0	1.0		
	2695 BOUL	3	1646	1646.5	1	4.0	1.0		
26	2695 CRON	3	0945.5	0946.5	3	6.0	2.0		
	2695 CANR	3	0946	0946.5	4	6.0	2.0		
	2695 SGMR	1	2010.5	2012.5	3.9	3.2	1.7		
	2800 OTTA	1	2010	2012.1	7	3.4	1.2		
	2695 BOUL	3	2011	2012.5	5.5	5.0	2.0		
	2800 OTTA	22	2047	2050.5	12	3.4	1.7		
	2695 BOUL	3	2047.5	2051	5.5	4.0	1.0		
27	2800 OTTA	1	1340	1340.5	6	1.4	0.6		
	2800 OTTA	22	1350	1354	30	3.6	1.8		
	2695 BOUL	3	1608	1609	2	3.0	1.0		
	2800 OTTA	21	1700	1717	45	1.8	0.9		
	2800 OTTA	1	1707	1708	2	1.2	0.6		
	2695 BOUL	3	1759.5	1800	1	4.0	1.0		
	2800 OTTA	21	1852	1853	12	1.6	0.8		
	2800 OTTA	8	1853.8	1853.8		3.7			
	2695 BOUL	3	2240	2241.5	2	4.0	1.0		
28	2800 OTTA	22	1300	1315	50	4.0	2.0		
	2695 CANR	8	1406.5	1407.5	1.5	9.0	3.0		
	2800 OTTA	20	1533	1600	120	2.4	1.2		
	2800 OTTA	21	1730	1740	100	3.2	1.6		
	2800 OTTA		1730	1740	33	3.2			
	2800 OTTA		1803	1718	67	3.0			
	2695 SGMR	1	1732.9	1733.2	2.2	2.9	1.0		
	2800 OTTA	1	1732.8	1733	1.2	3.0	1.5		
	2695 CANR	8	1732	1732.5	1	5.0	2.0		
	2800 OTTA	46	2153.5	2158.2	16	96.0	20.5		
	2695 BOUL	45	2153.5	2158.5	18.5	80.0	27.0		
	2800 OTTA	29	2209.5		52	8.4	3.0		

Observatories:

BOUL = Boulder CRON = Carnarvon OTTA = Ottawa ARO PENT = Penticton SGMR = Sagamore Hill
CANR = Canary Islands MANI = Manila

Explanation of Type Code:

1 Simple 1 6 Minor 22 Simple 3F 27 Rise and Fall 32 Absorption 44 Noise storm in Progress
2 Simple 1F 7 Minor + 23 Simple 3AF 28 Precursor 40 Fluctuation 45 Complex
3 Simple 2 8 Spike 24 Rise 29 Post Burst Increase 41 Group of Bursts 46 Complex F
4 Simple 2F 20 Simple 3 25 Rise A 30 Post Burst Increase A 42 Series of Bursts 47 Great Burst
5 Simple 21 Simple 3A 26 Fall 31 Post Burst Decrease 43 Onset of Noise Storm 48 Major
49 Major +

PIONEER IX

FEBRUARY 1973

Date Feb. 1973	Time (UT)	ESP (°)	Solar Wind[1]		IP E-Field[2]	IP Magnetic Field[3]			Cosmic Ray Protons[4] (particles/sec)	
			U_{H^+} (km/sec)	TAU (Days)	400 Hz (mv)	/B/ (Gamma)	ϕ (°)	Condition	>13.9 Mev	>40 Mev
2	1000	030.04	417	2.2469	0.223			very quiet (1)	6.4	1.16
	1400		449		0.253	7.7	149	quiet (2)	6.75	1.34
	1800		468		0.239				6.45	1.17
3	1000	029.99	468	2.4998	0.242				6.55	1.27
	1400		404		0.231	7.6	150	slightly disturbed (3)	6.48	1.2
	1800		417		0.231				6.41	1.17
4	1000	029.93	468	2.4769	0.226				6.35	1.29
	1400		468		0.217	8.3	129	very quiet	6.18	1.01
	1800		523		0.190				6.21	1.24
7	1000	029.74	542	2.4531	0.278				6.34	1.27
	1400		542		0.278	4.8	139	slightly disturbed (4)	6.3	1.14
	1800		542		0.226				6.38	1.13
9	1000	029.59	564	2.4765	0.261				6.36	1.19
	1400		504		0.267	4.9	182	slightly disturbed (5)	6.31	1.25
	1800		504		0.269				6.48	1.11
10	1000	029.50	449	2.5219	0.225				6.45	1.27
	1400		430		0.337(7)	3.7	123	quiet (6)	6.56	1.09
	1800		417		0.258				6.52	1.14
11	1000	029.41	376	2.5838	0.204(8)				6.39	1.2
	1400		363		0.212	5.5	128	quiet	6.41	1.11
	1800		350		0.195				6.56	1.32
14	1000	029.09	404	2.5315	0.217				6.35	1.19
	1400		430		0.217	7.3	001	quiet	6.42	1.31
	1800		430		0.190				6.29	1.21
16	1000	028.85	430	2.534	0.179				6.03	1.20
	1400		430		0.225	4.8	337	very quiet	6.00	0.96
	1800		376		0.233				6.04	1.15
17	1000	028.72	376	2.5893	0.218				6.04	1.2
	1400		363		0.235	8.9	310	very quiet (9)	6.02	1.2
	1800		404		0.225				5.89	1.2
18	1000	028.59	449	2.4899	0.214				6.08	1.14
	1400		486		0.225	10.4	327	quiet (10)	6.06	1.13
	1800		486		0.231				6.13	1.03
21	1900	028.14	655	2.3649	0.187	9.6	303	quiet	5.89	1.2
	2300		731		0.206				5.87	1.17
22	1000	027.97	783	2.3362	0.313				6.2	1.07
	1400		757		0.175	7.7	324	quiet	6.0	1.03
	1800		783		0.258				5.9	1.21
23	1000	027.80	757	2.3027	0.295				6.05	1.09
	1400		879		0.233	6.2	295	quiet	5.91	1.17
	1800		879		0.218				5.91	1.13
24	1000	027.63	680	2.3497	0.136				5.82	1.04
	1400		705		0.187	6.7	335	slightly disturbed (11)	5.97	1.12
	1800		731		0.235				6.04	1.17
25	1000	027.44	706	2.3422	0.163				5.86	1.06
	1400		757		0.140	5.2	313	quiet (12)	6.02	1.11
	1800		680		0.156				6.21	1.13

[1] Wolfe - NASA/ARC
[2] Scarfe - TRW, Inc.
[3] Sonett and Colburn - NASA/ARC
[4] Webber - Univ. of N.H.

ESP = Earth-Sun Probe Angle.

Notes: (1) Inward 0900 thru 1130 UT
(2) Outward 1200 thru 1930 UT with 1 Field Direction Reversal at 1600 UT
(3) With 3 minor Field Direction Reversals at 1600, 1700 and 1900 UT
(4) With 1 Field Direction Reversal at 1923 UT
(5) With 2 Field Direction Reversals at 1330 and 1530 UT
(6) With 1 Field Direction Reversal at 1000 UT
(7) E-Field jumped ~200% during 1402 thru 1406 UT
(8) E-Field was exceptionally quiet during pass
(9) With 1 Field Direction Reversal at 1200 UT
(10) With 1 Field Direction Reversal at 1101 UT
(11) With 3 Field Direction Reversals at 0930, 1800 and 1900 UT
(12) With 1 Field Direction Reversal at 1810 UT

Note: Possible Pioneer 9/10 Spiral Alignment Occurrences at various Nominal Solar Wind Velocities:

U_{H+} (km/sec)	Date (of Alignment)
300	15 February 1973
400	27 December 1972
500	09 November 1972

Comp. No. (1972)	Time (GMT)	[illegible] (T.A.)	Solar Wind		IP Shock Wave			Comments (See Footnotes)
			Vp (km/sec)	Np (cm⁻³)	Vsh (km/sec)	Np (cm⁻³)	Direction	
1	1000	000.00	410	1.2	450	2.5	Normal	
	1100		410	1.2	450	2.5		
	1200		410	1.2	450	2.5		
2	1300	000.00	410	1.2	450	2.5	Normal	
	1400		410	1.2	450	2.5		
	1500		410	1.2	450	2.5		
3	1600	000.00	410	1.2	450	2.5	Normal	
	1700		410	1.2	450	2.5		
	1800		410	1.2	450	2.5		
4	1900	000.00	410	1.2	450	2.5	Normal	
	2000		410	1.2	450	2.5		
	2100		410	1.2	450	2.5		
5	2200	000.00	410	1.2	450	2.5	Normal	
	2300		410	1.2	450	2.5		
	2400		410	1.2	450	2.5		
6	0100	000.00	410	1.2	450	2.5	Normal	
	0200		410	1.2	450	2.5		
	0300		410	1.2	450	2.5		
7	0400	000.00	410	1.2	450	2.5	Normal	
	0500		410	1.2	450	2.5		
	0600		410	1.2	450	2.5		
8	0700	000.00	410	1.2	450	2.5	Normal	
	0800		410	1.2	450	2.5		
	0900		410	1.2	450	2.5		
9	1000	000.00	410	1.2	450	2.5	Normal	
	1100		410	1.2	450	2.5		
	1200		410	1.2	450	2.5		
10	1300	000.00	410	1.2	450	2.5	Normal	
	1400		410	1.2	450	2.5		
	1500		410	1.2	450	2.5		
11	1600	000.00	410	1.2	450	2.5	Normal	
	1700		410	1.2	450	2.5		
	1800		410	1.2	450	2.5		
12	1900	000.00	410	1.2	450	2.5	Normal	
	2000		410	1.2	450	2.5		
	2100		410	1.2	450	2.5		
13	2200	000.00	410	1.2	450	2.5	Normal	
	2300		410	1.2	450	2.5		
	2400		410	1.2	450	2.5		
14	0100	000.00	410	1.2	450	2.5	Normal	
	0200		410	1.2	450	2.5		
	0300		410	1.2	450	2.5		
15	0400	000.00	410	1.2	450	2.5	Normal	
	0500		410	1.2	450	2.5		
	0600		410	1.2	450	2.5		
16	0700	000.00	410	1.2	450	2.5	Normal	
	0800		410	1.2	450	2.5		
	0900		410	1.2	450	2.5		
17	1000	000.00	410	1.2	450	2.5	Normal	
	1100		410	1.2	450	2.5		
	1200		410	1.2	450	2.5		
18	1300	000.00	410	1.2	450	2.5	Normal	
	1400		410	1.2	450	2.5		
	1500		410	1.2	450	2.5		
19	1600	000.00	410	1.2	450	2.5	Normal	
	1700		410	1.2	450	2.5		
	1800		410	1.2	450	2.5		
20	1900	000.00	410	1.2	450	2.5	Normal	
	2000		410	1.2	450	2.5		
	2100		410	1.2	450	2.5		
21	2200	000.00	410	1.2	450	2.5	Normal	
	2300		410	1.2	450	2.5		
	2400		410	1.2	450	2.5		
22	0100	000.00	410	1.2	450	2.5	Normal	
	0200		410	1.2	450	2.5		
	0300		410	1.2	450	2.5		
23	0400	000.00	410	1.2	450	2.5	Normal	
	0500		410	1.2	450	2.5		
	0600		410	1.2	450	2.5		
24	0700	000.00	410	1.2	450	2.5	Normal	
	0800		410	1.2	450	2.5		
	0900		410	1.2	450	2.5		

JANUARY 1973 DATA

Contents

	Page
Daily Solar Activity Centers	
X-ray, 8.6 mm, 9.1 cm and 21 cm Spectroheliograms, Magnetograms, Calcium Plages, Hα Spectroheliograms, Sunspots, Corona and EUV Spectroheliograms	22-83
Individual Regions of Solar Activity	84-90
Daily Calcium Indices	91
Solar X-ray Radiation	
Naval Research Laboratory - Explorer 44	92-94
Sudden Ionospheric Disturbances	
Table of Events	95
Number of Events in each Plage Region	96
Solar Radio Waves	
Spectral Observations	97-103
Cosmic Rays	
Neutron Monitors Daily Values - Calgary, Sulphur Mountain, Dallas	104
Chart of Variations - Calgary, Sulphur Mountain	105
Geomagnetic Indices	
Table of Indices Kp, Ci, Cp, Ap	106
Chart of Kp by Solar Rotations and 12-Month Table of Daily Average Ap	107
Principal Magnetic Storms	108
Sudden Commencements and Solar Flare Effects	109
Radio Propagation Indices	
North Atlantic Quality Figures and Forecasts	110
Charts of North Atlantic Short-term Forecasts and Quality and High Latitude Advance Forecasts	111
Transmission Frequency Ranges - North Atlantic Path	112-113
Quality Indices on Germany-Canada Path	114

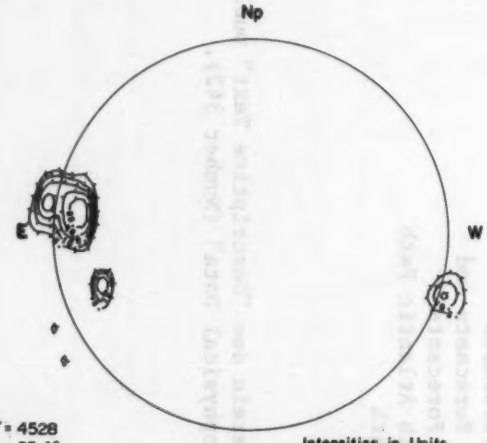
For explanations of the data contained herein see "Descriptive Text" published as supplement to February 1973 "Solar-Geophysical Data" (Number 342).

JANUARY 1, 1973 (P= 2.08 , B_o= -3.06, L_o= 201.32) MT. WILSON

22 Jan 73

NASA GSFC
OSO-7

X-RAY



COUNT = 4528
ROLL = 85.4°
P-TH = 6.60

1002 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

Note:
For several months beginning with December 1972 no 8.6 cm observations will be made at Prospect Hill. Repair and calibration of equipment are in progress.

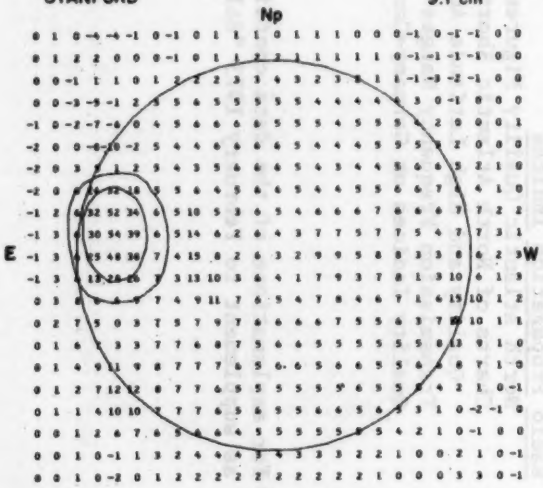
Contours in Intervals of 200° K

MAGNETOGRAM
Solid-Plus
Dotted-Minus

Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

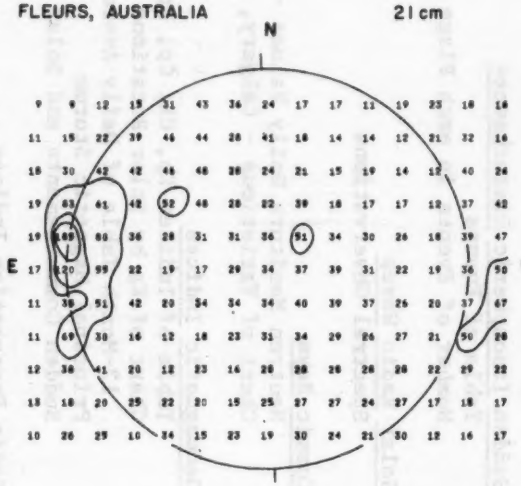


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

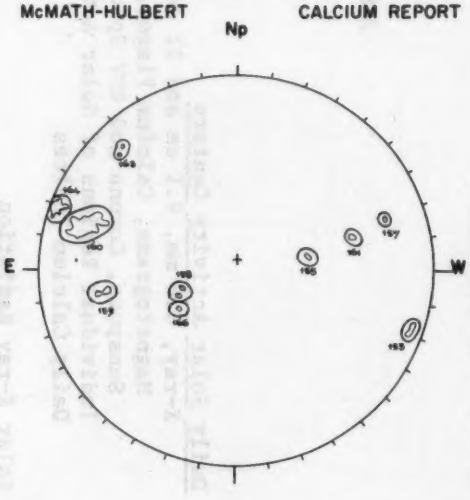


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



POOR	S
53 - 0900 - 3.0	
59 - 0500 - 2.5	
60 - 3000 - 3.5	
64 - 1500 - 3.0	

1815 UT

BOULDER

20-21 UT

02-03 UT Brightness Unit 1,700° K

1815 UT

BOULDER
01

Np

Hα

E

W

Sp

1632 UT

BOULDER

Np

SUNSPOTS

E

NO DATA

W

NO DATA

Sp

NRL
OSO-7

Np

TV SCAN DIRECTION

WHITE-LIGHT
CORONA

TWO DIAMETRAL STREAKS, ALWAYS AT 90° TO SCAN DIRECTION

E

W

SHADOW AREA CAUSED BY OCCULTER SUPPORT

0619 UT

Sp

NASA GSFC
OSO-7

Np

FE XV
284A

E

W

0953 UT

Sp

COUNT = 75580
ROLL = 85.4°
P-TH = 6.60

Np

NRL
OSO-7

171-630A

E

W

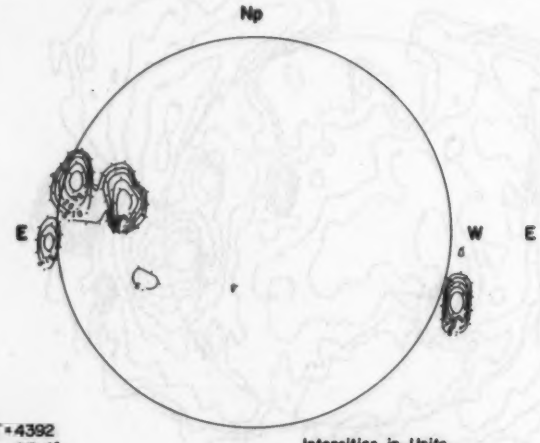
0942 UT
COUNT = 61467

Sp

23
Jan 73

JANUARY 2, 1973 (P= 1.60, B_o= -3.18, L_o= 188.15)

NASA GSFC
OSO-7
X-RAY



COUNT=4392
ROLL =87.4°
P-TH =6.50

1647 UT

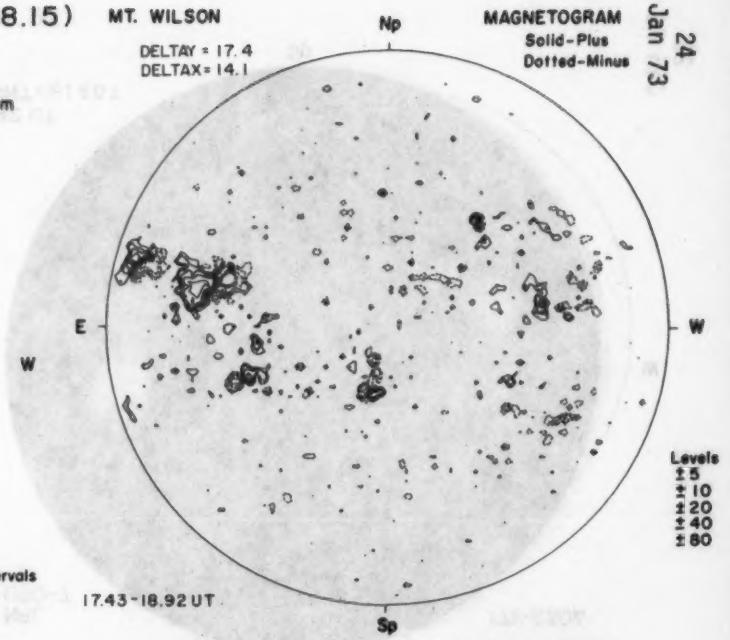
Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL
8.6 mm

Contours in Intervals of 200° K

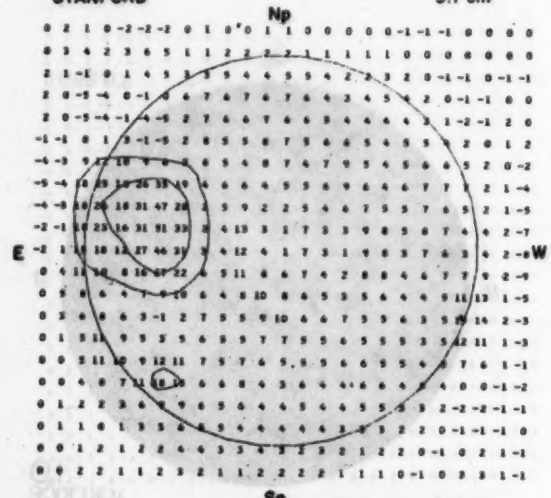
MT. WILSON
MAGNETOGRAM
Solid-Plus
Dotted-Minus
24 Jan 73

DELTAY = 17.4
DELTAX = 14.1



17.43-18.92 UT

STANFORD
9.1 cm



20-21 UT

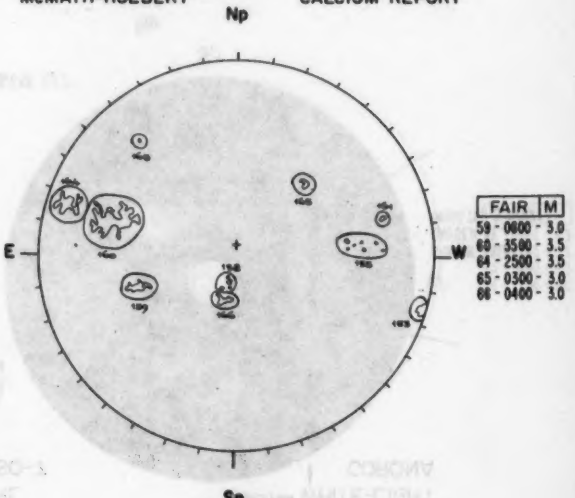
Brightness Unit 5,000° K

FLEURS, AUSTRALIA
21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT
CALCIUM REPORT



1910 UT

20-21 UT

02-03 UT Brightness Unit 1,700° K

1910 UT

BOULDER
02

Np

Hα

E

W

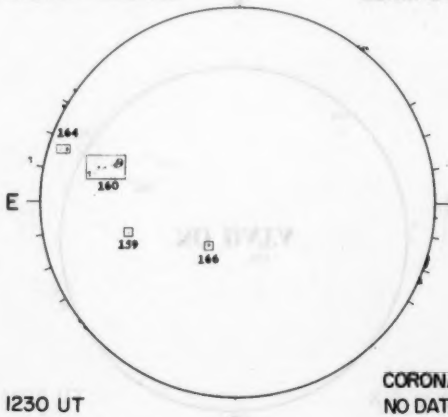
Sp

1701 UT

CANARY ISLAND

Np

SUNSPOTS



E

W

Sp

1230 UT

CORONA
NO DATA

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

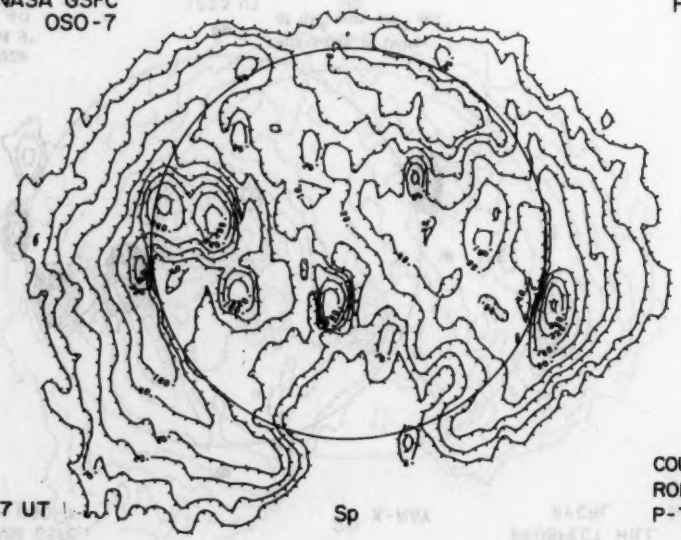
W

Sp

0524 UT

NASA GSFC
OSO-7

Np



E

W

Sp

1647 UT

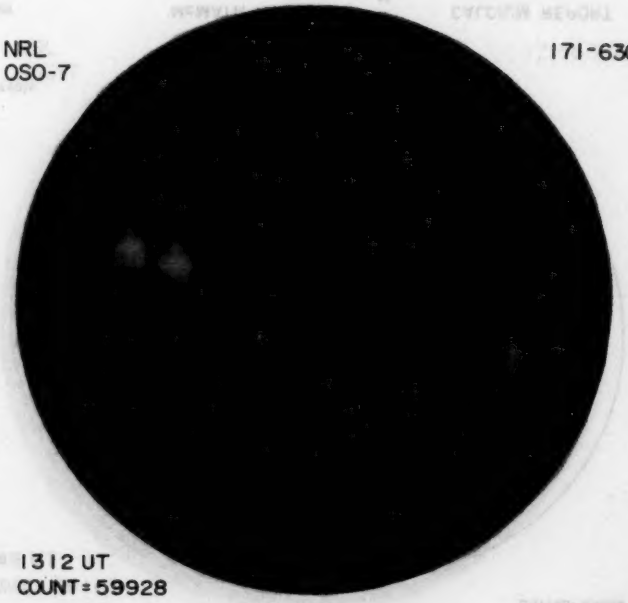
FE XV
284A

COUNT = 82194
ROLL = 84.7°
P-TH = 6.50

NRL
OSO-7

Np

171-630A



E

W

Sp

1312 UT
COUNT = 59928

25
Jan 73

JANUARY 3, 1973 (P= 1.11, B_o= -3.29, L_o= 174.98)

MT. WILSON

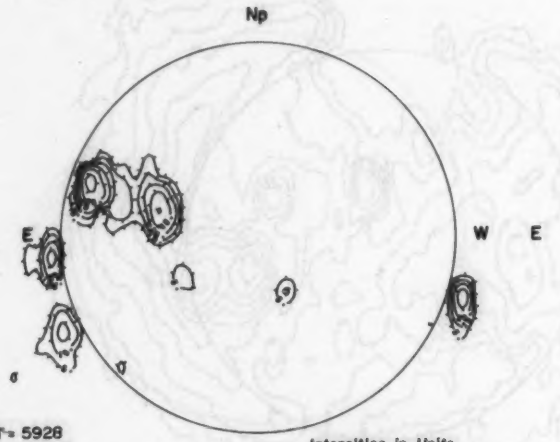
Np

MAGNETOGRAM
Solid-Plus
Dotted-Minus

26 Jan 73

NASA GSFC
OSO-7

X-RAY



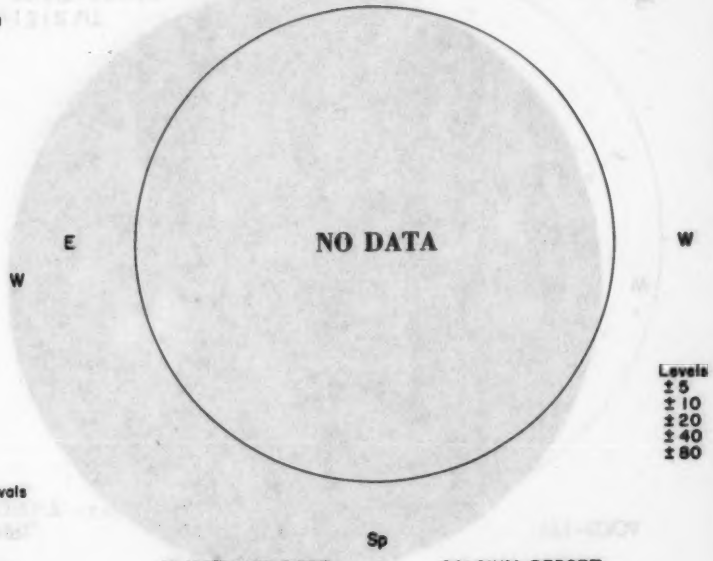
COUNT= 5928
ROLL = 84.9°
P-TH = 6.40

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

1253 UT

PROSPECT HILL
AFCRL

8.6 mm

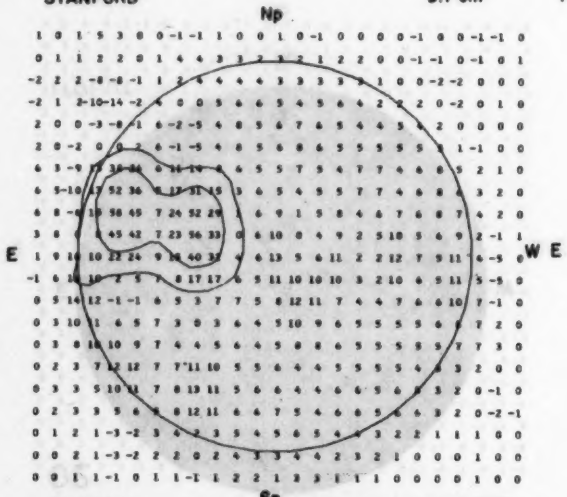


Levels
±5
±10
±20
±40
±80

Contours in Intervals of 200° K

STANFORD

9.1 cm



Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

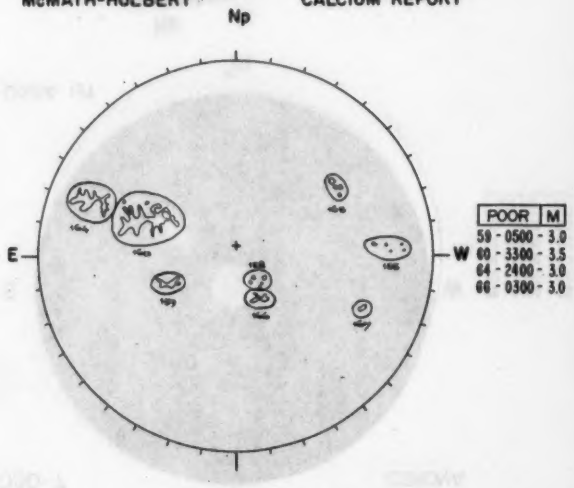
21 cm

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT

CALCIUM REPORT



1425 UT

20-21 UT

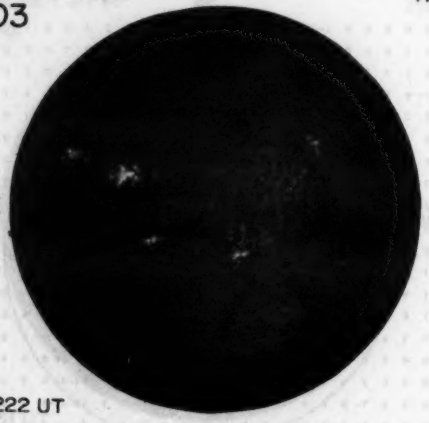
02-03 UT Brightness Unit 1,700° K

1425 UT

RAMEY AFB
03

Np

Hα



E

W

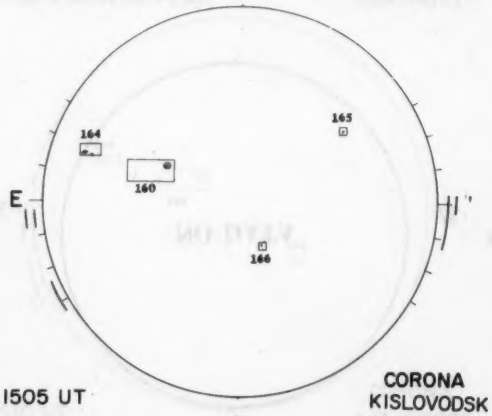
1222 UT

Sp

SACRAMENTO PEAK

Np

SUNSPOTS



E

1505 UT

Sp

CORONA
KISLOVODSK

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

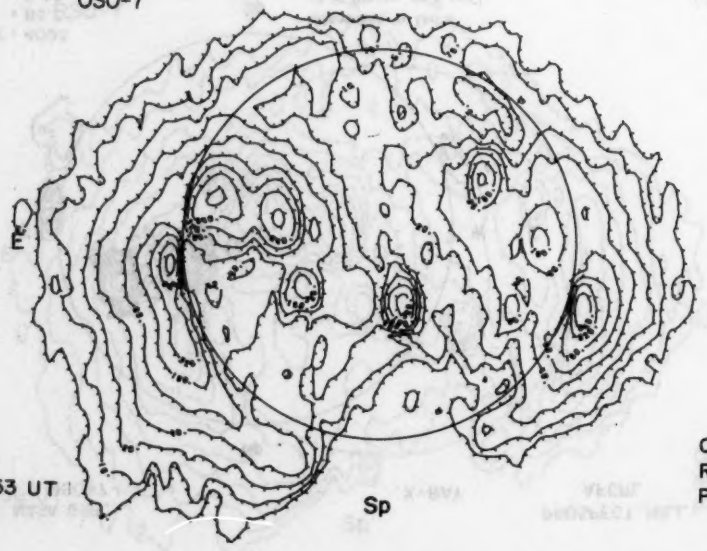
W

2258 UT

Sp

NASA GSFC
OSO-7

Np



E

W

1253 UT

Sp

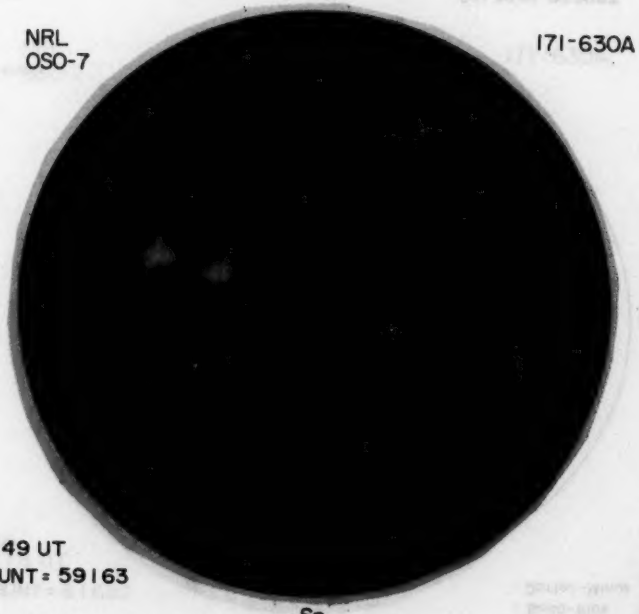
FE XV
284A

COUNT = 90581
ROLL = 84.9°
P-TH = 6.40

NRL
OSO-7

Np

171-630A



E

W

1249 UT
COUNT = 59163

Sp

27
Jan 73

JANUARY 4, 1973 (P= 0.62, B_o= -3.41, L_o= 161.81)

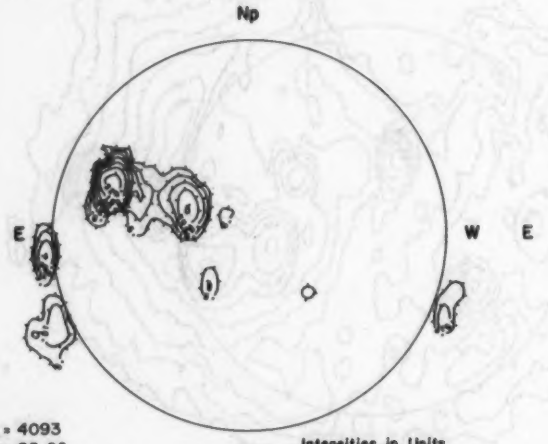
MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus

28 Jan 73

NASA GSFC
OSO-7

X-RAY



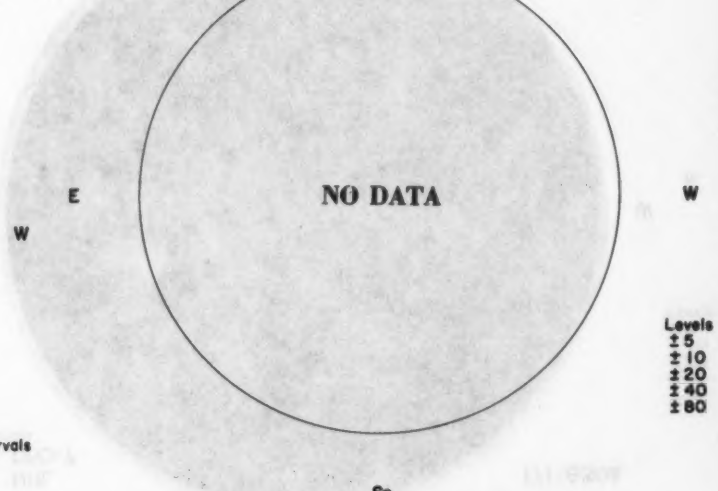
COUNT = 4093
ROLL = 65.0°
P-TH = 6.40

0645 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

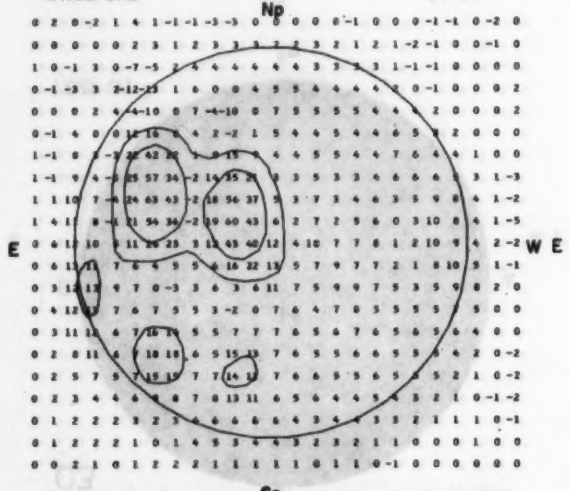


Contours in Intervals of 200° K

Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm



20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

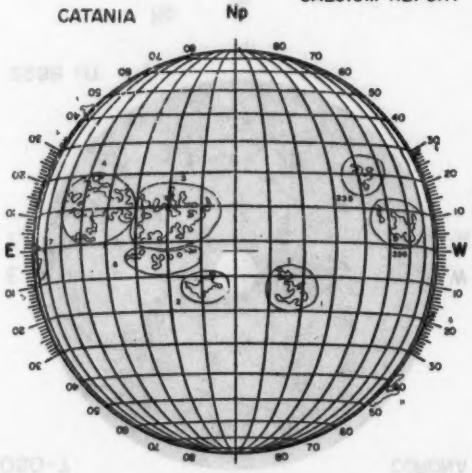
21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

CALCIUM REPORT

CATANIA



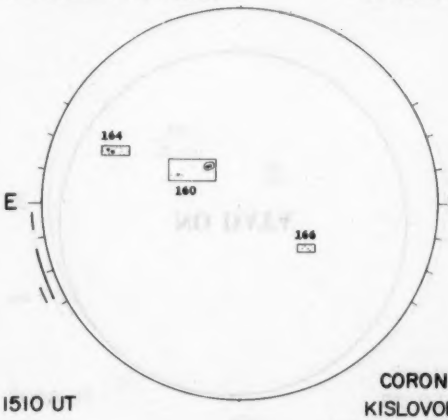
FAIR GD
1- 1357---
2- 1162---
3- 6641---
4- 7849---
7- 3398---

1020 UT

RAMEY AFB
04

1331 UT

SACRAMENTO PEAK
SUNSPOTS



1510 UT

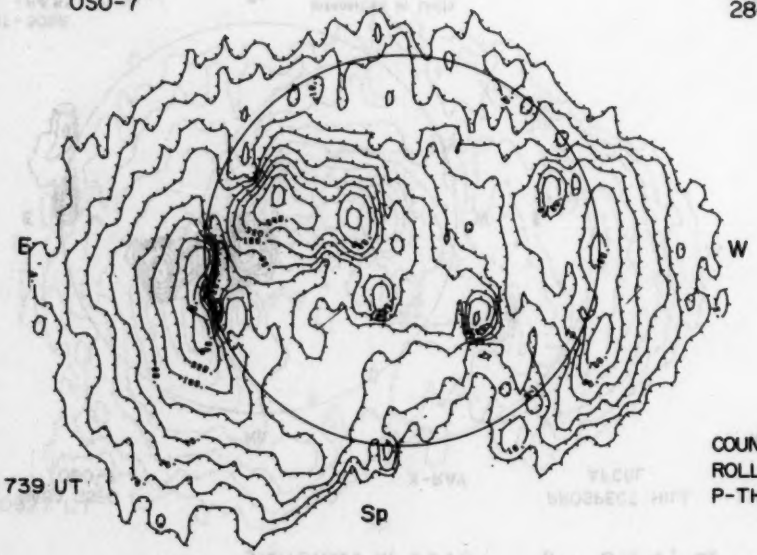
CORONA
KISLOVODSK
NO DATA 255°-270°

NRL
OSO-7
WHITE-LIGHT
CORONA

2335 UT

NASA GSFC
OSO-7

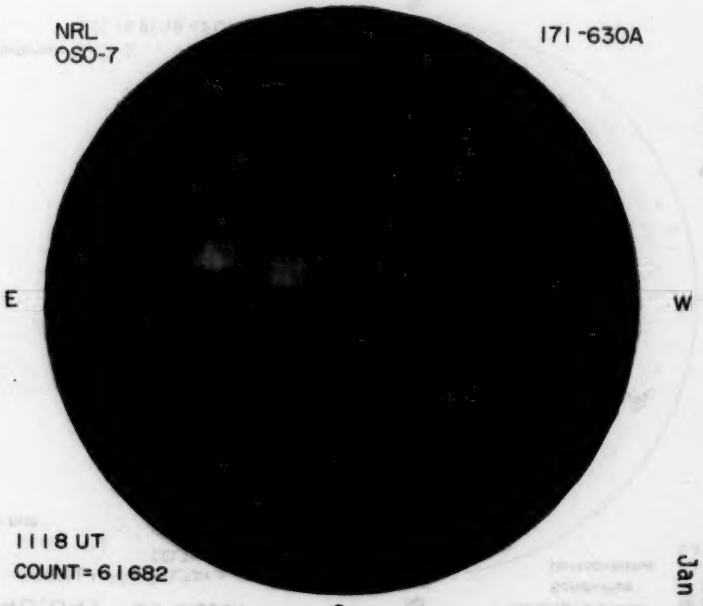
FE XV
284A



1739 UT

COUNT = 94884
ROLL = 85.0°
P-TH = 6.40

NRL
OSO-7
171-630A

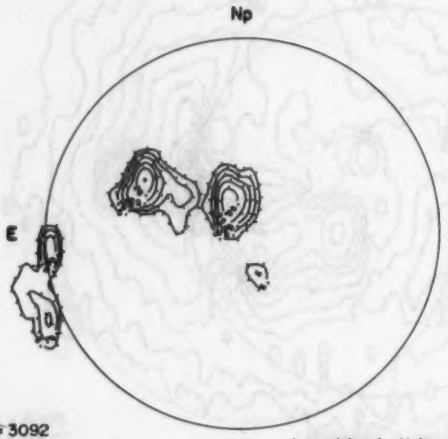


1118 UT
COUNT = 61682

29
Jan 73

JANUARY 5, 1973 (P= 0.14, B_o = -3.52, L_o = 148.64)

NASA GSFC
OSO-7
X-RAY

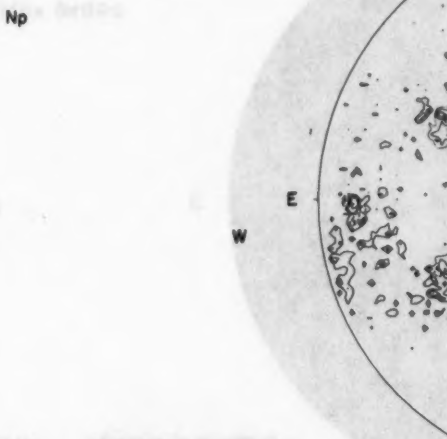


COUNT = 3092
ROLL = 84.5°
P-TH = 6.35

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

0902 UT

PROSPECT HILL
AFCRL
8.6 mm

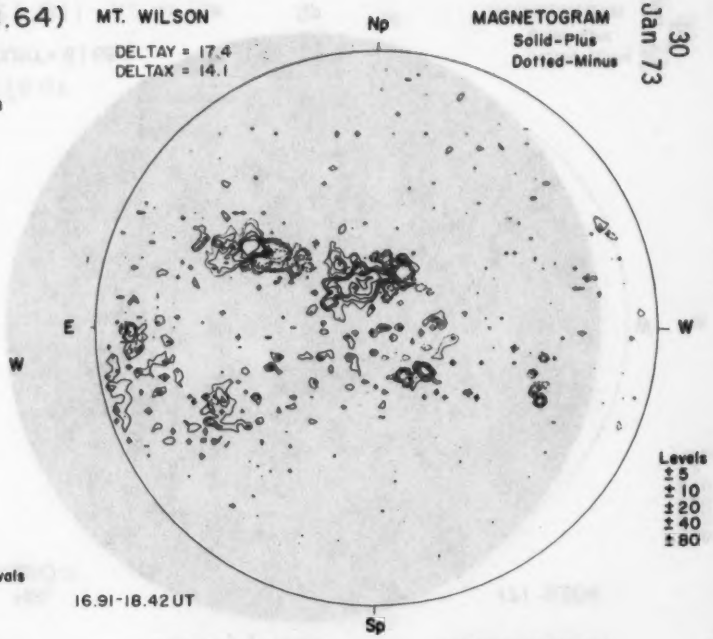


Contours in Intervals of 200° K

MT. WILSON
DELTAY = 17.4
DELTAX = 14.1

MAGNETOGRAM
Solid-Plus
Dotted-Minus

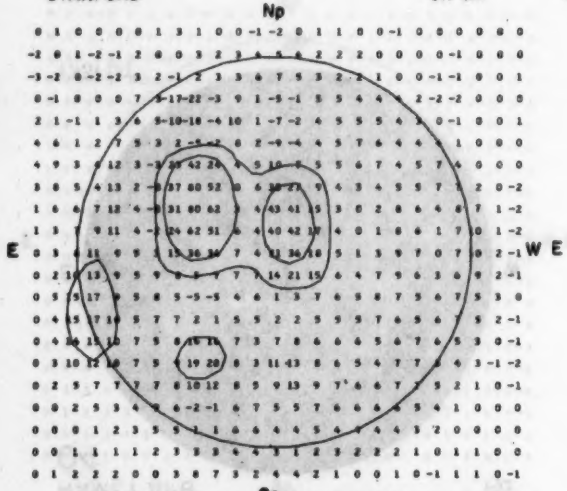
30 Jan 73



Levels
±5
±10
±20
±40
±80

16.91-18.42 UT

STANFORD
9.1 cm



Brightness Unit 5,000° K

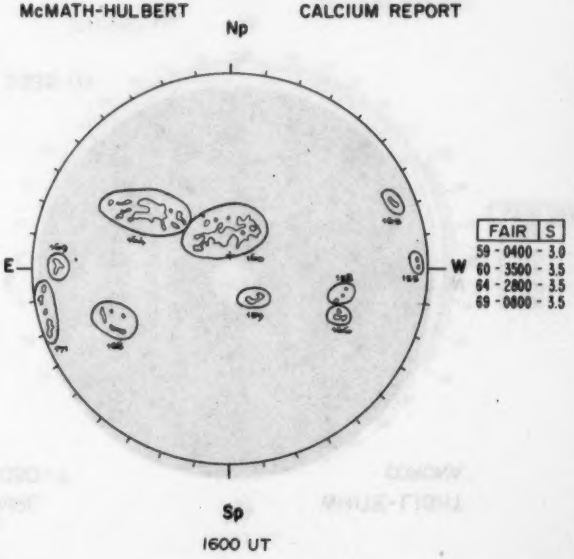
20-21 UT

FLEURS, AUSTRALIA
21 cm

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT
CALCIUM REPORT



FAIR	S
59 - 0400 - 3.0	
60 - 3500 - 3.5	
64 - 2800 - 3.5	
69 - 0800 - 3.5	

1600 UT

20-21 UT

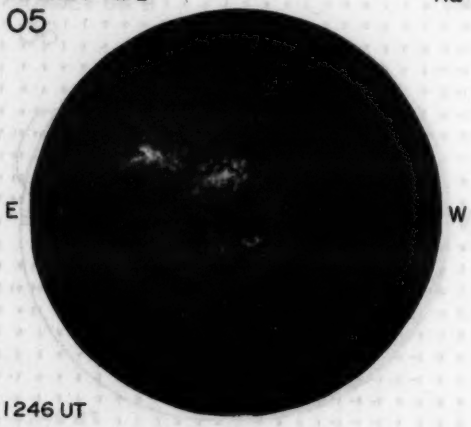
02-03 UT Brightness Unit 1,700° K

1600 UT

RAMEY AFB
05

Np

Hα



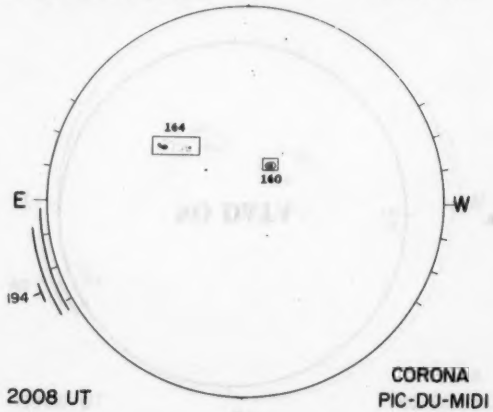
Sp

1246 UT

SACRAMENTO PEAK

Np

SUNSPOTS



CORONA
PIC-DU-MIDI

2008 UT

Sp

NRL
OSO-7

Np

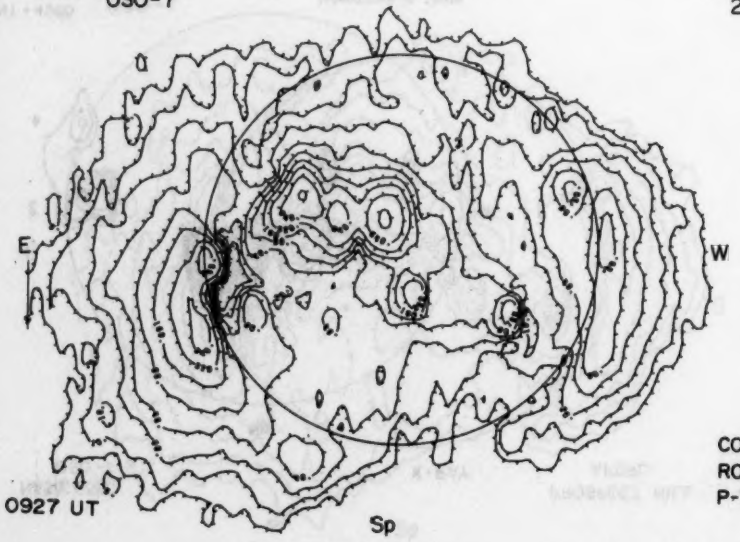
WHITE-LIGHT
CORONA

2240 UT

Sp

NASA GSFC
OSO-7

Np



0927 UT

Sp

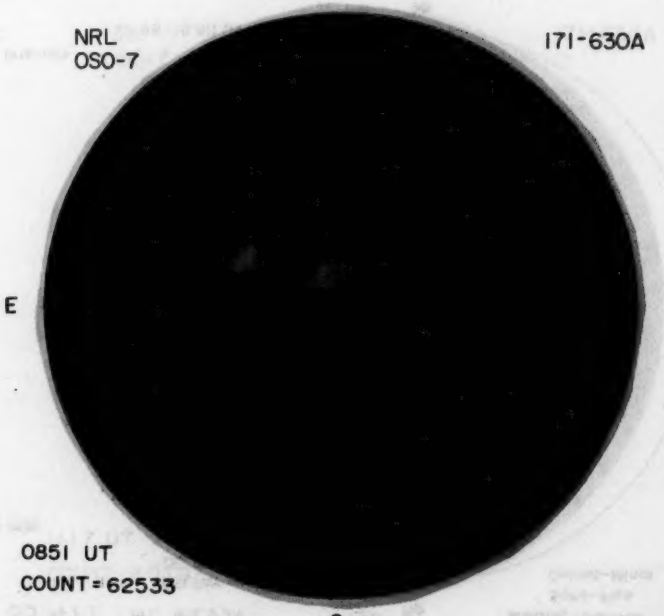
FE XV
284A

COUNT = 89677
ROLL = 84.5°
P-TH = 6.35

Np

NRL
OSO-7

171-630A



0851 UT
COUNT = 62533

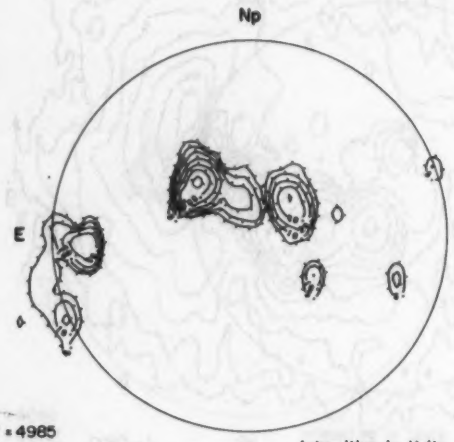
Sp

31
Jan 73

JANUARY 6, 1973 (P = -0.35, B_o = -3.63, L_o = 135.47)

32
Jan 73

NASA GSFC
OSO-7
X-RAY



COUNT = 4985
ROLL = 84.0°
P-TH = 6.20

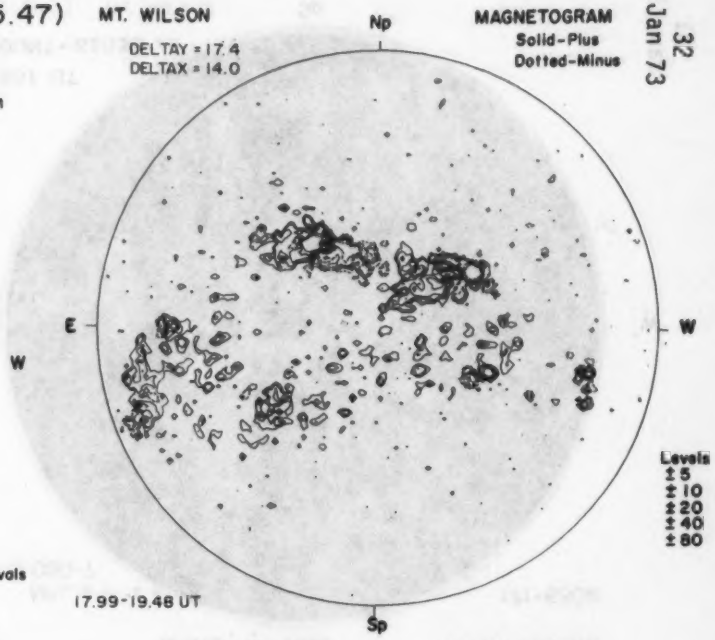
1120 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL
8.6 mm

Contours in Intervals of 200° K

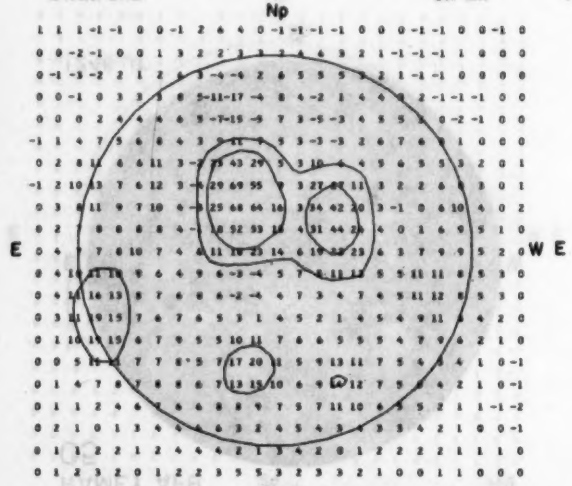
MT. WILSON
MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 17.4
DELTAX = 14.0



Levels
±5
±10
±20
±40
±80

17.99-19.48 UT

STANFORD
9.1 cm



20-21 UT

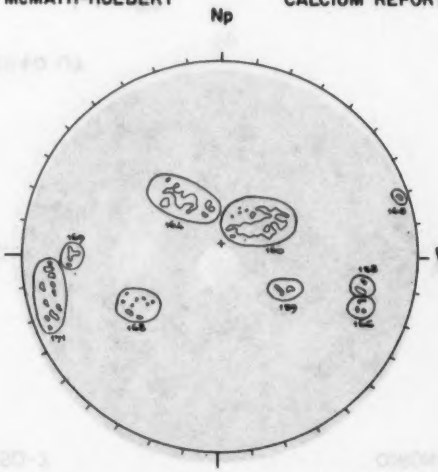
Brightness Unit 5,000° K

FLEURS, AUSTRALIA
21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT
CALCIUM REPORT



FAIR	S
58 - 0500	2.5
59 - 0400	2.5
60 - 3500	3.0
64 - 2500	4.0
69 - 0700	3.0

1430 UT

Sp
Brightness Unit 5,000° K
20-21 UT

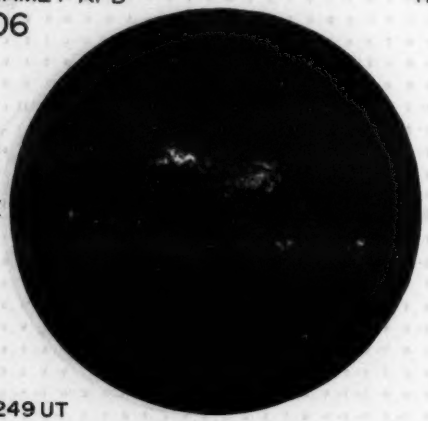
02-03 UT
Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

1430 UT

RAMEY AFB
06

Np

Hα



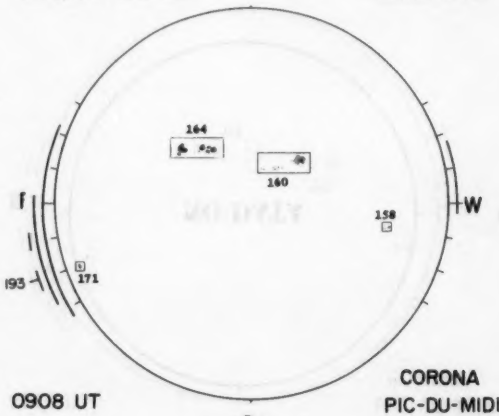
1249 UT

Sp

CANARY ISLAND

Np

SUNSPOTS



0908 UT

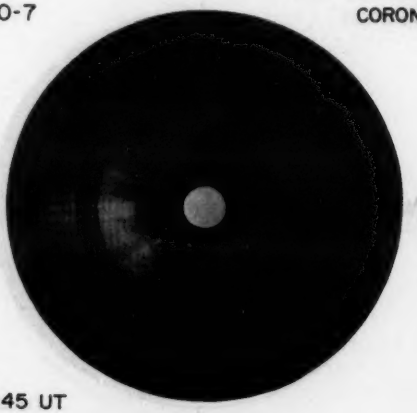
Sp

CORONA
PIC-DU-MIDI

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

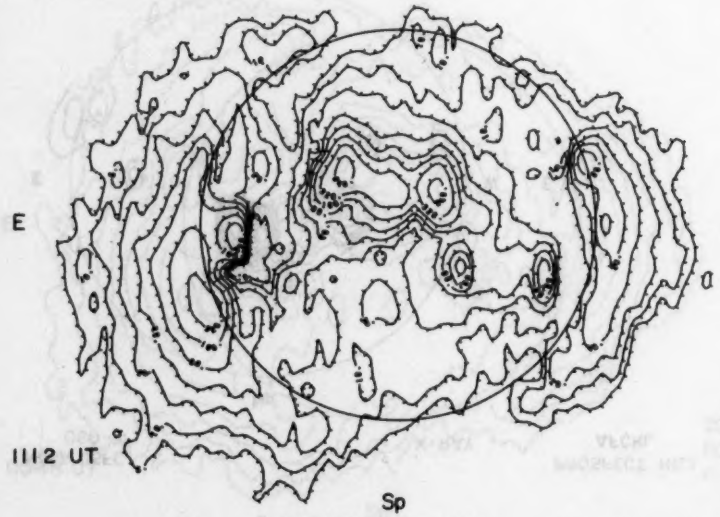


2145 UT

Sp

NASA GSFC
OSO-7

Np



1112 UT

Sp

FE XV
284A

COUNT = 56558
ROLL = 84.0°
P-TH = 6.20

Np

NRL
OSO-7

171-630A

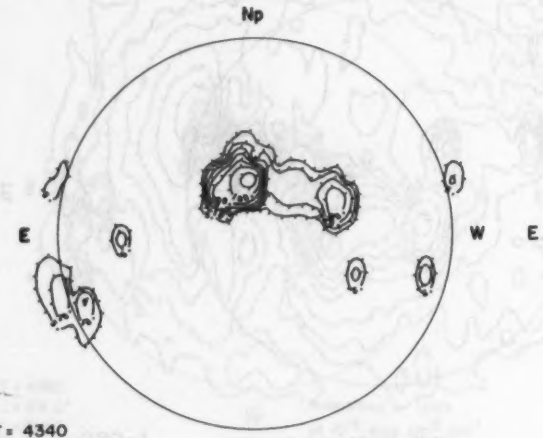
1117 UT
COUNT= 60797

Sp

33
Jan 73

JANUARY 7, 1973 (P = -0.83, B_o = -3.74, L_o = 122.30)

NASA GSFC
OSO-7
X-RAY



COUNT = 4340
ROLL = 84.6°
P-TH = 6.18

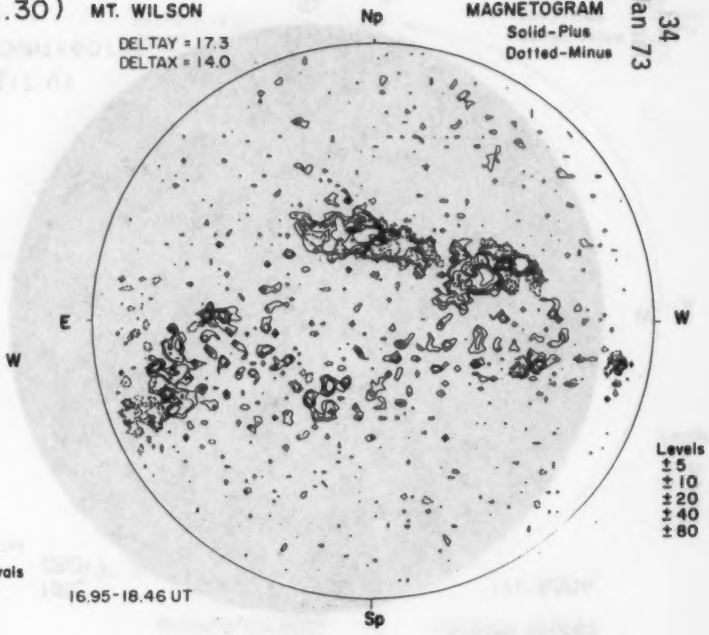
Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

0532 UT

PROSPECT HILL
AFCRL
8.6 mm

Contours in Intervals of 200° K

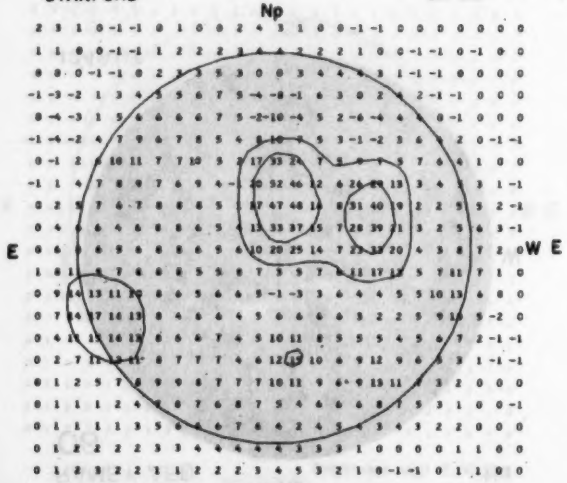
MT. WILSON
MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 17.3
DELTAX = 14.0



Levels
±5
±10
±20
±40
±80

16.95-18.46 UT

STANFORD
9.1 cm



Brightness Unit 5,000° K

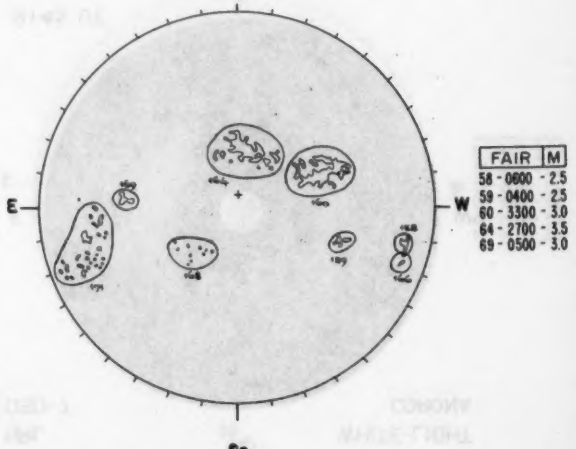
20-21 UT

FLEURS, AUSTRALIA
21 cm

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

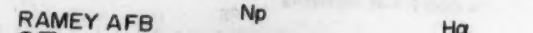
02-03 UT

McMATH-HULBERT
CALCIUM REPORT



1655 UT

RAMEY AFB



Hα

Sp

20-21 UT

Brightness Unit 5,000° K

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

1655 UT

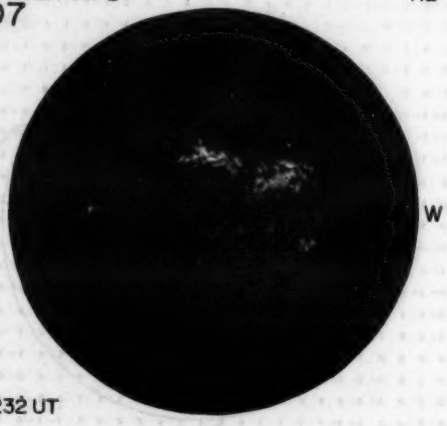
RAMEY AFB
07

Np

Hα

E

W



1232 UT

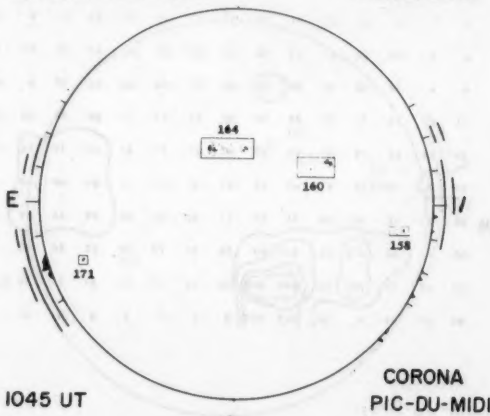
Sp

CANARY ISLAND

Np

SUNSPOTS

E



1045 UT

CORONA
PIC-DU-MIDI

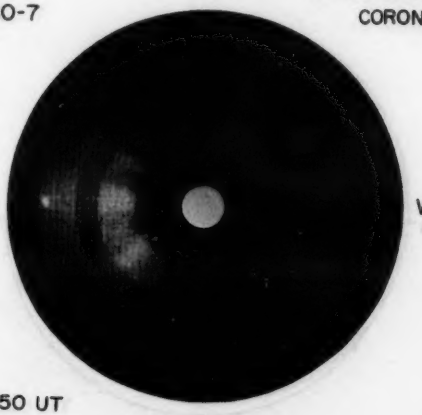
Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E



W

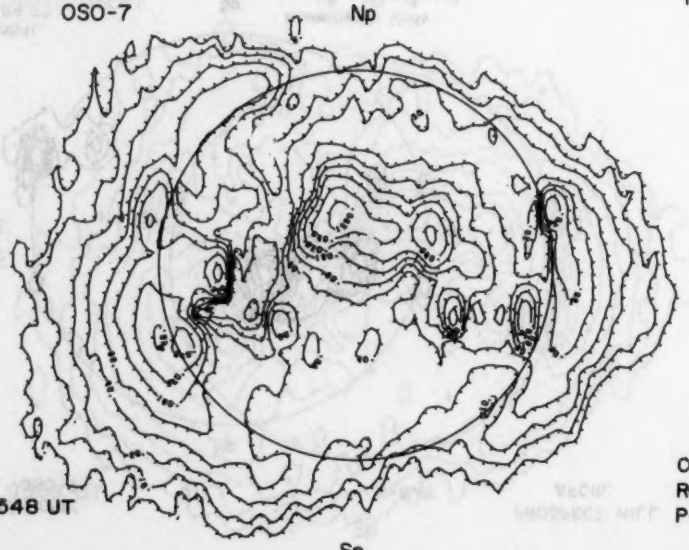
2050 UT

Sp

NASA GSFC
OSO-7

Np

E



W

0548 UT

Sp

FE XV
284A

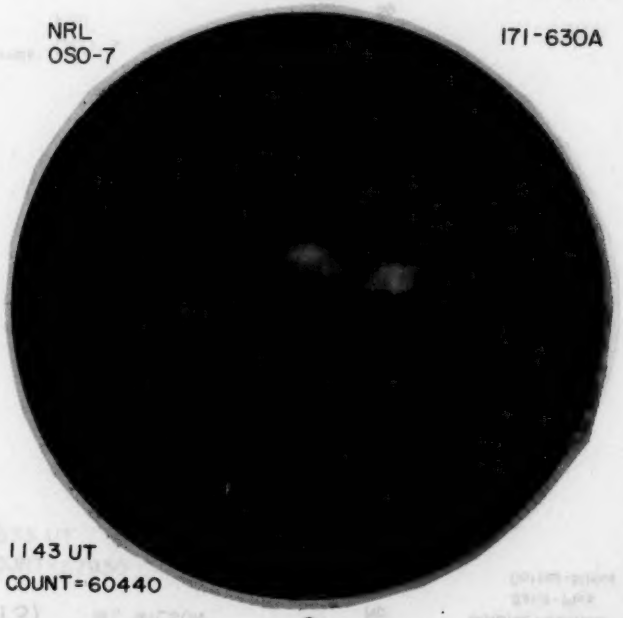
COUNT = 108664
ROLL = 84.6°
P-TH = 6.18

Np

NRL
OSO-7

171-630A

E



W

1143 UT
COUNT=60440

Sp

35
Jan 73

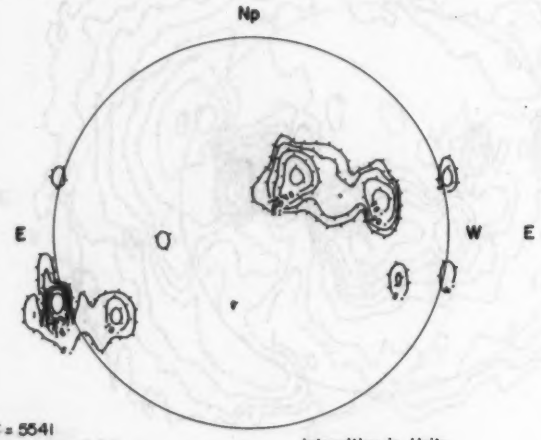
JANUARY 8, 1973 (P = -1.31, B_o = -3.85, L_o = 109.13)

MT. WILSON

MAGNETOGRAM
Solid - Plus
Dotted - Minus

NASA GSFC
OSO-7

X-RAY



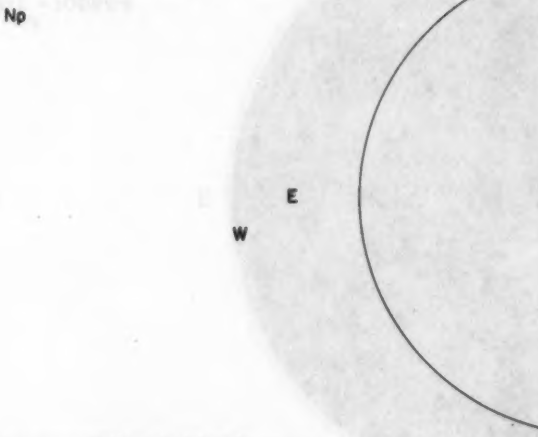
COUNT = 5541
ROLL = 84.7°
P-TH = 6.15

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

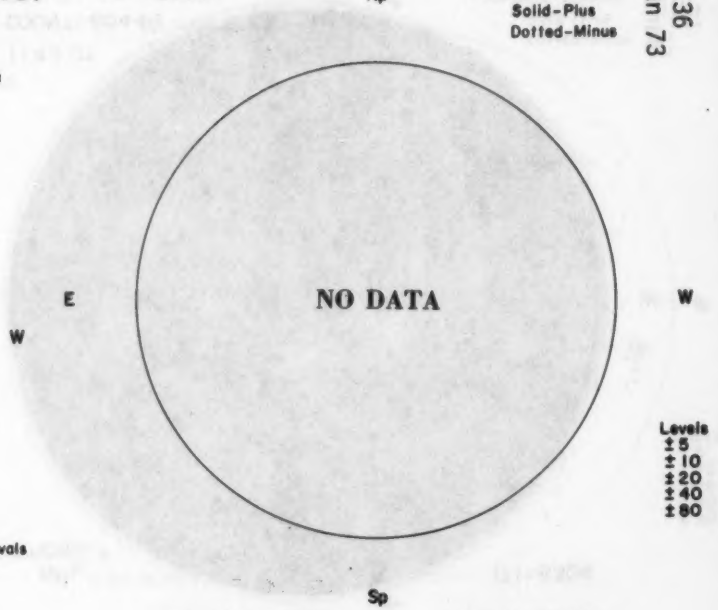
0939 UT

PROSPECT HILL
AFCRL

8.6 mm

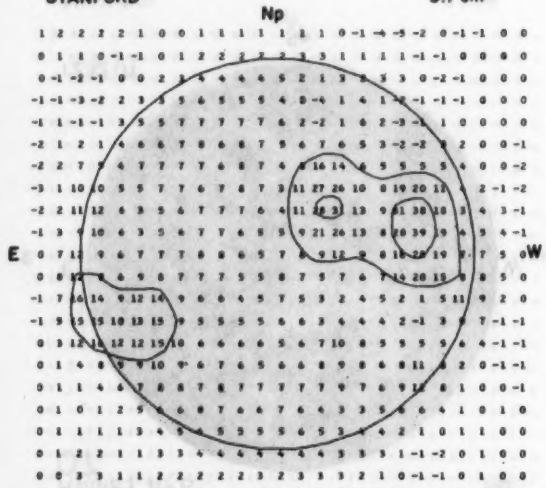


Contours in Intervals of 200° K



STANFORD

9.1 cm

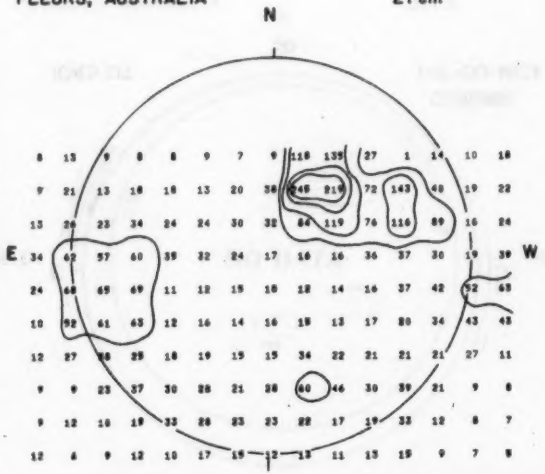


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

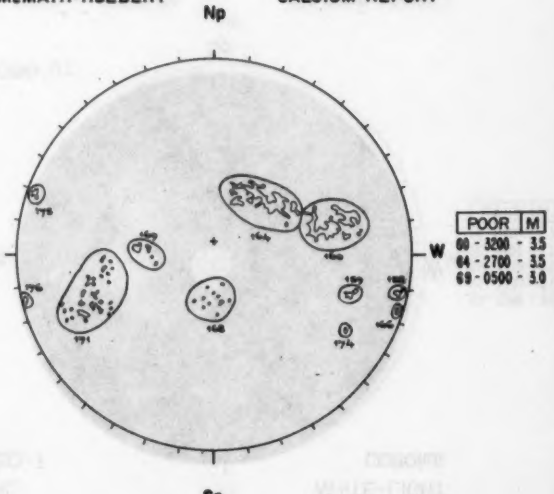


Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT

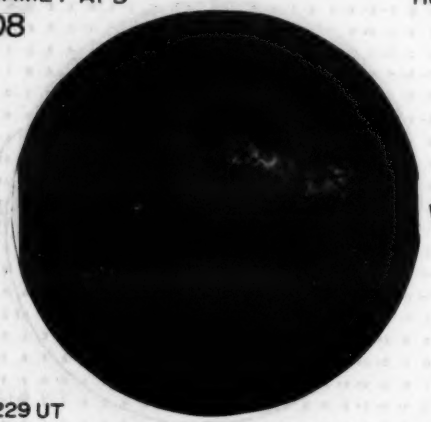
CALCIUM REPORT



1440 UT

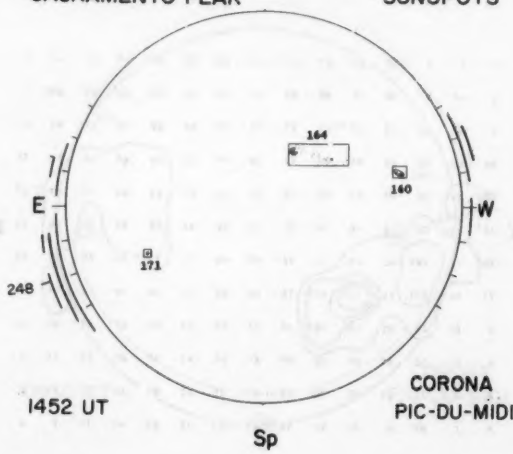
RAMEY AFB

RAMEY AFB
08



1229 UT

SACRAMENTO PEAK
SUNSPOTS



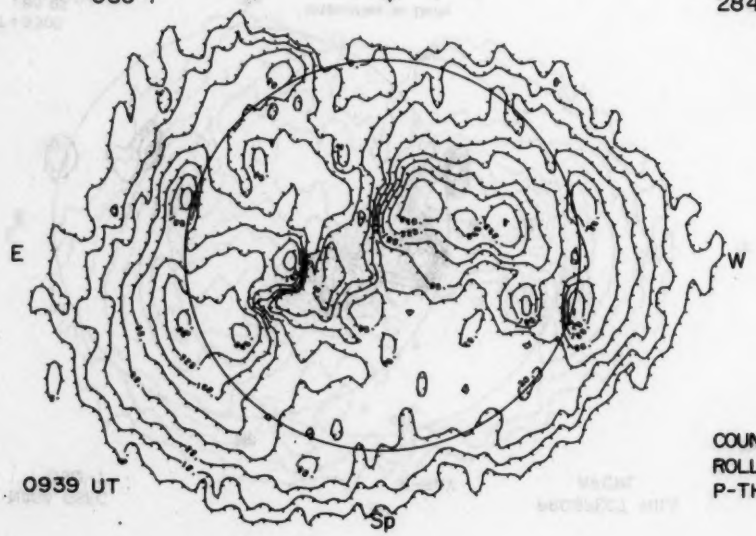
1452 UT

CORONA
PIC-DU-MIDI

NRL
OSO-7

1955 UT

NASA GSFC
OSO-7

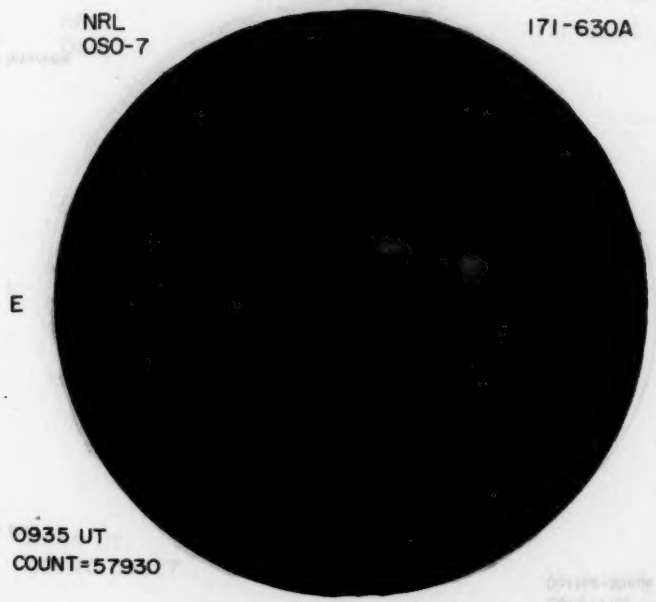


0939 UT

FE XV
284A

COUNT = 100596
ROLL = 84.7°
P-TH = 6.15

NRL
OSO-7



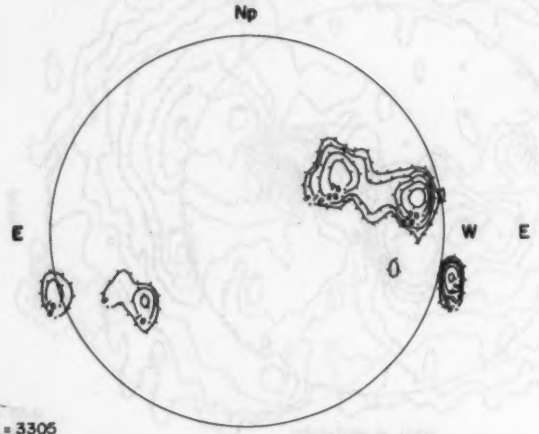
0935 UT
COUNT=57930

37
Jan 73

JANUARY 9, 1973 (P = -1.80, B_o = -3.96, L_o = 95.97)

NASA GSFC
OSO-7

X-RAY



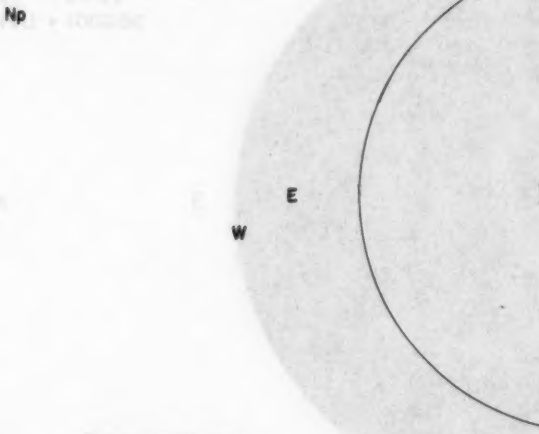
COUNT = 3305
ROLL = 85.8°
P-TH = 6.10

0811 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

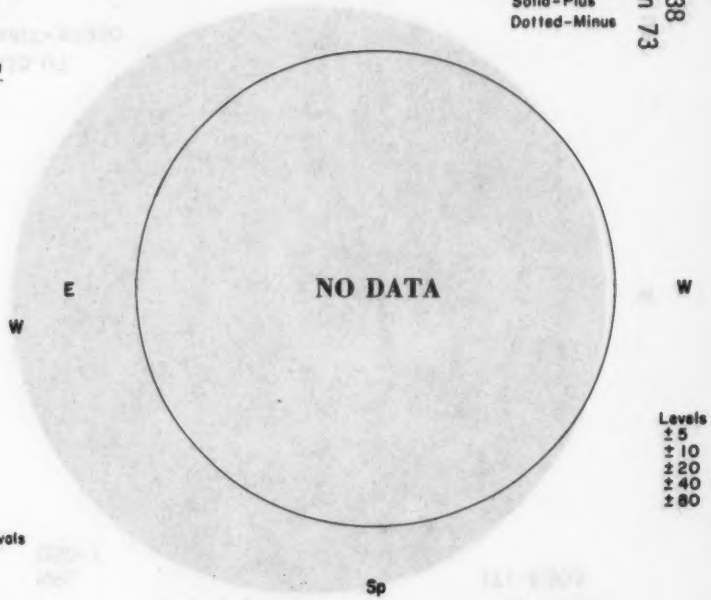
8.6 mm



Contours in Intervals of 200° K

MT. WILSON

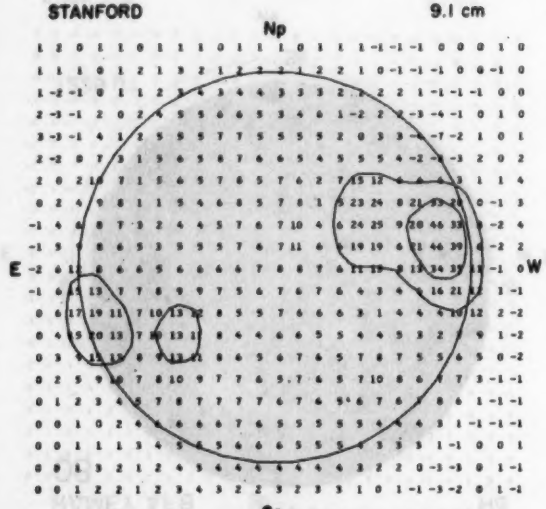
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

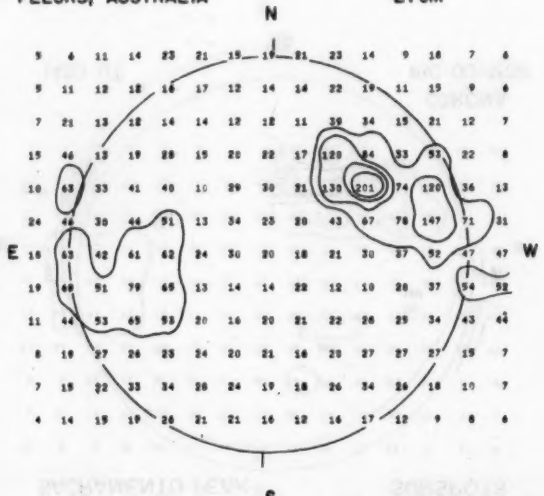


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

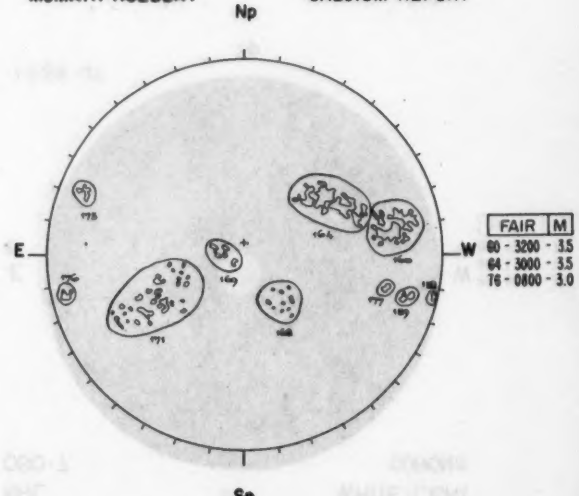


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



1500 UT

BOULDER

Hα

CANARY ISLAND

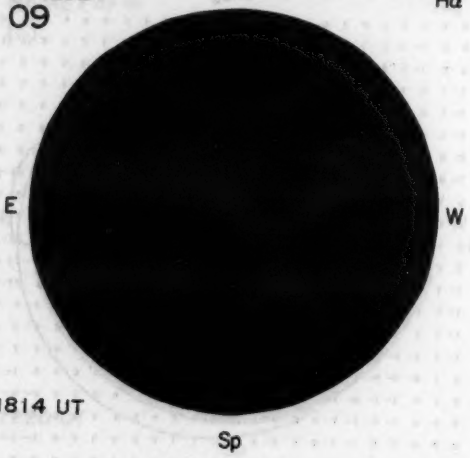
SUNSPOTS

20-21 UT

02-03 UT Brightness Unit 1,700° K

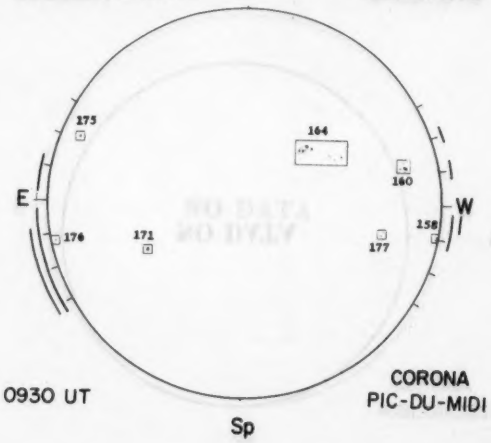
1500 UT

BOULDER
09



1814 UT

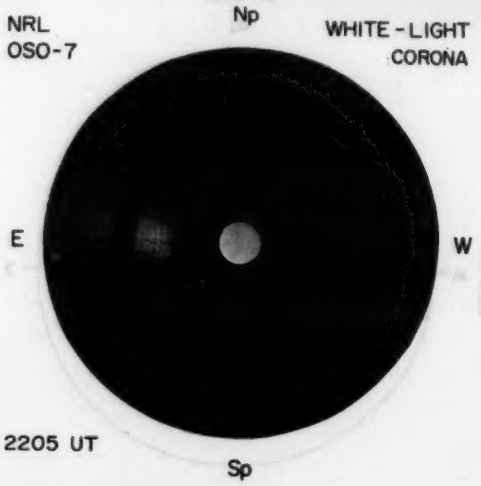
CANARY ISLAND



0930 UT

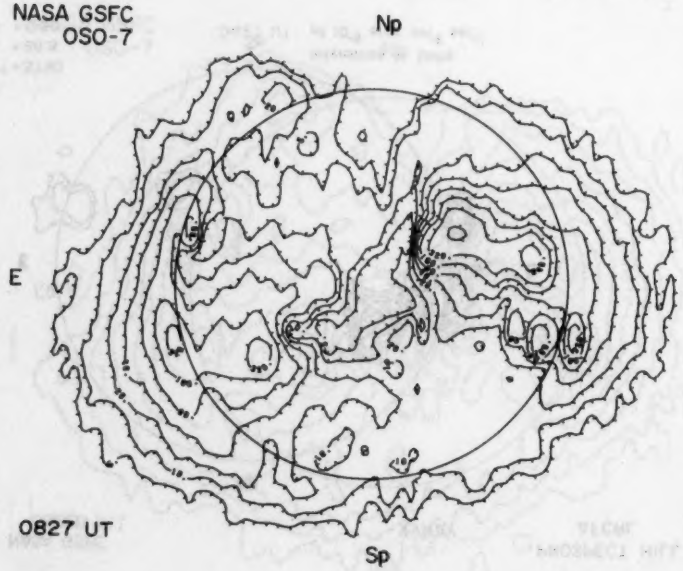
CORONA
PIC-DU-MIDI

NRL
OSO-7



2205 UT

NASA GSFC
OSO-7

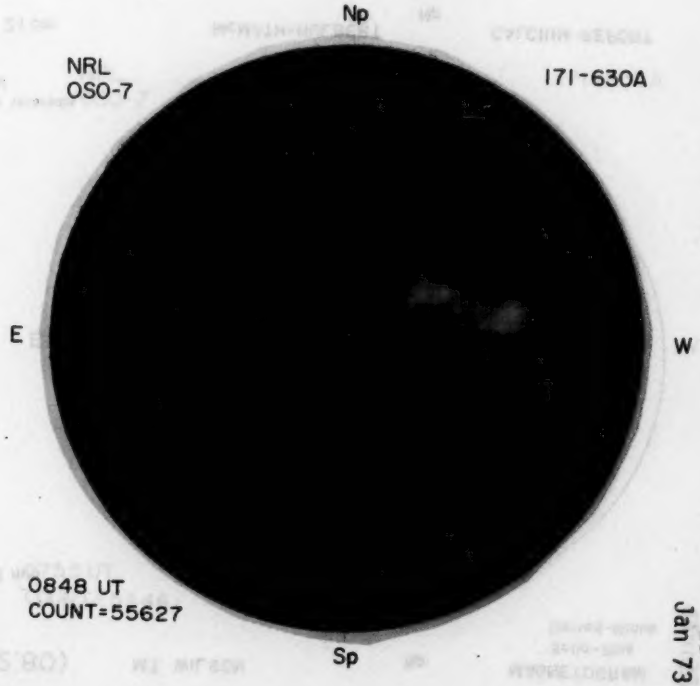


0827 UT

FE XV
284 A

COUNT = 59078
ROLL = 85.8°
P-TH = 6.10

NRL
OSO-7



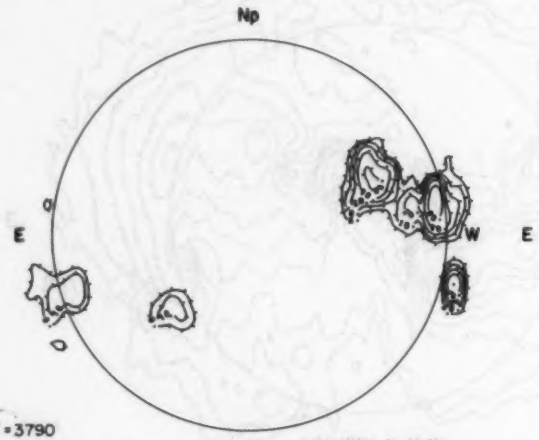
0848 UT
COUNT=55627

39
Jan 73

JANUARY 10, 1973 (P = -2.28, B_o = -4.07, L_o = 82.80)

NASA GSFC
OSO-7

X-RAY



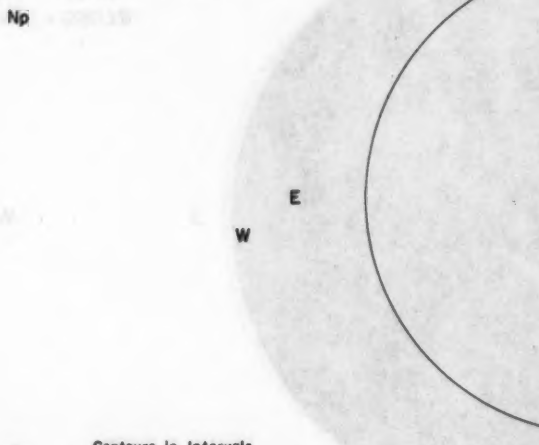
COUNT = 3790
ROLL = 86.8
P-TH = 6.00

0427 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm



Contours in Intervals of 200° K

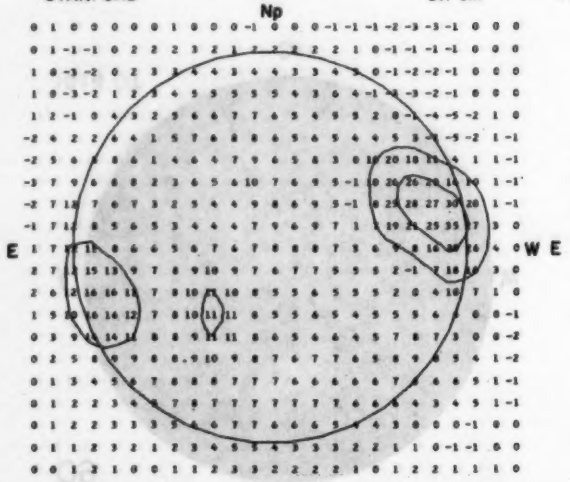
MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus

Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

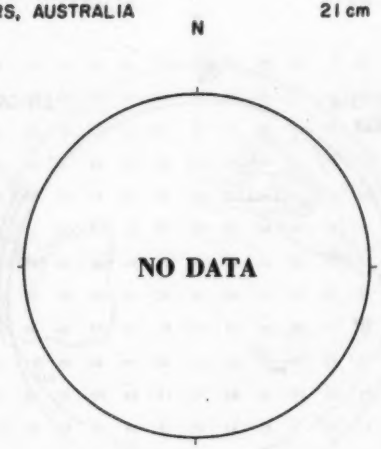


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

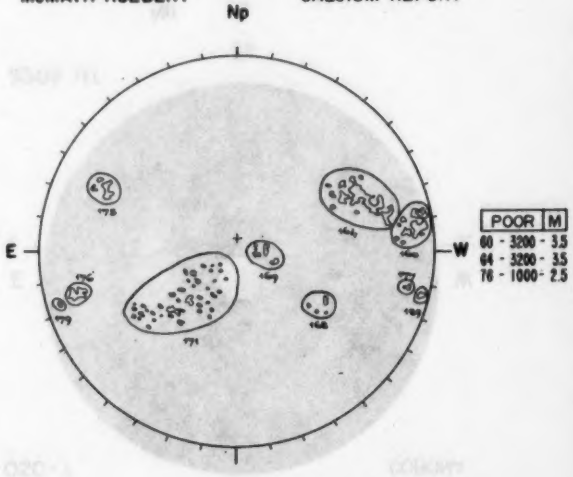


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



1540 UT

Brightness Unit 5,000° K

20-21 UT

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

1540 UT

RAMEY AFB
10

Np

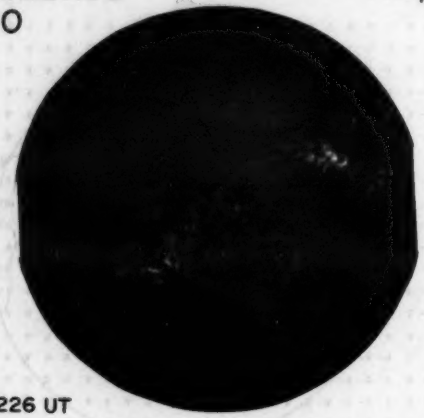
Hα

E

W

Sp

1226 UT



BOULDER

Np

SUNSPOTS

E

NO DATA

W

Sp

CORONA
KISLOVODSK

NRL
OSO-7

Np

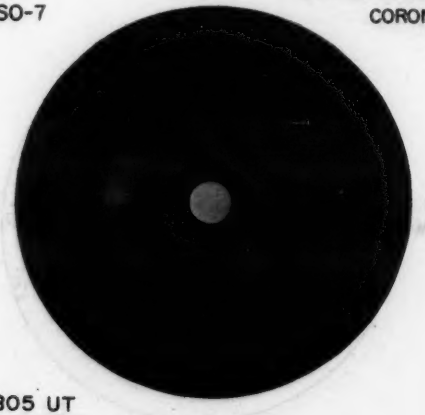
WHITE-LIGHT
CORONA

E

W

1805 UT

Sp



NASA GSFC
OSO-7

Np

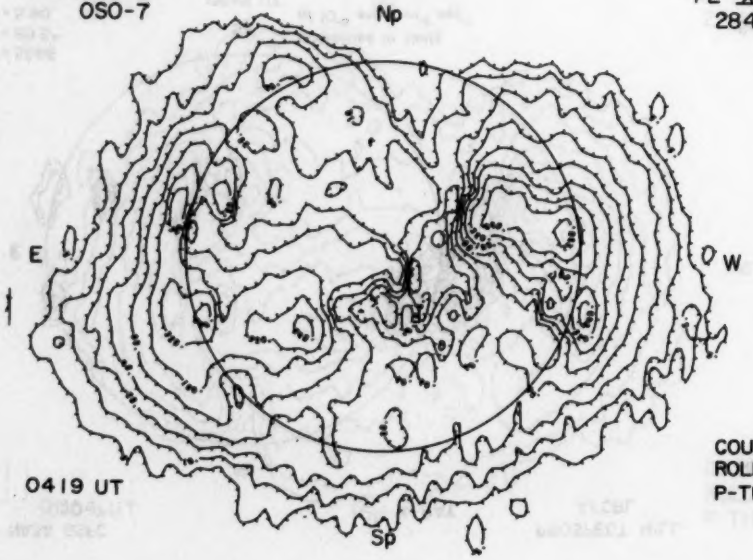
FE XV
284A

E

W

Sp

0419 UT



COUNT= 111583
ROLL = 86.8°
P-TH = 6.00

NRL
OSO-7

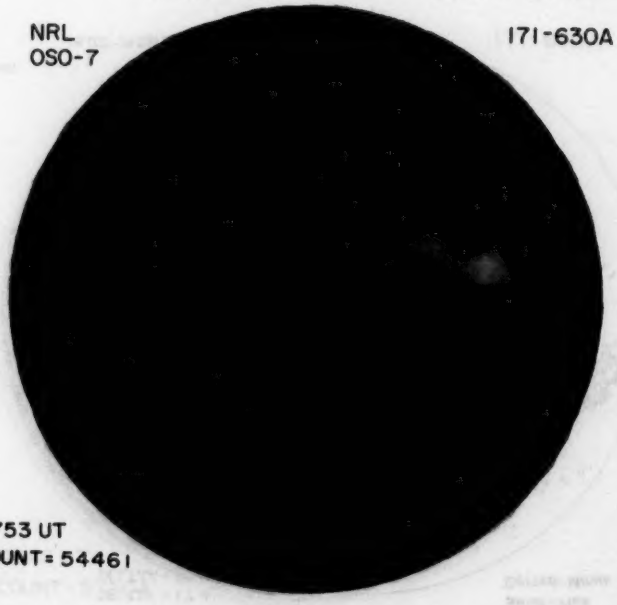
Np

171-630A

E

W

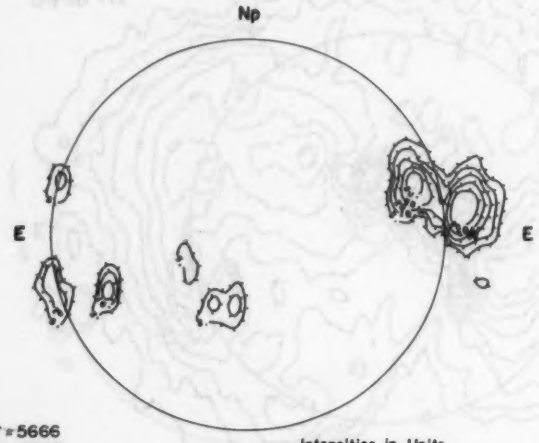
0753 UT
COUNT= 54461



JANUARY 11, 1973 (P=-2.76, B_o=-4.18, L_o=69.63)

NASA GSFC
OSO-7

X-RAY



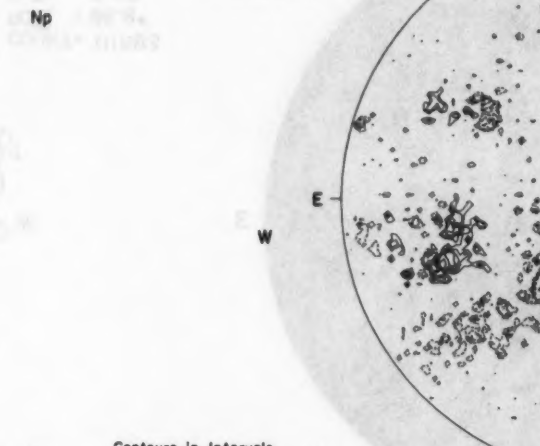
COUNT = 5666
ROLL = 89.5°
P-TH = 5.90

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

0645 UT

PROSPECT HILL
AFCRL

8.6 mm

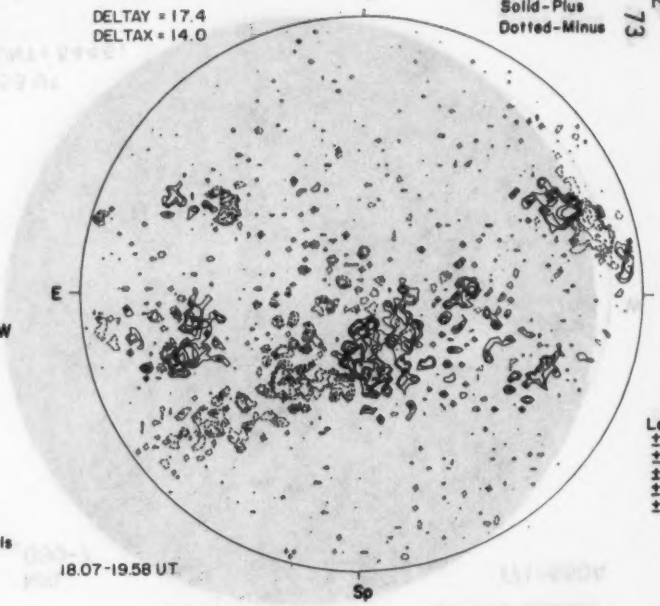


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

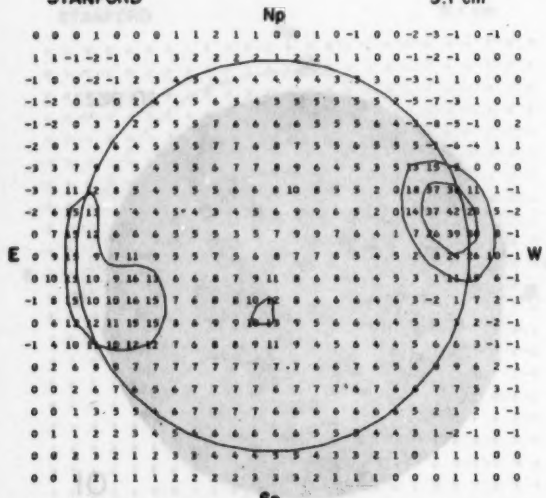


Levels
±5
±10
±20
±40
±80

18.07-19.58 UT

STANFORD

9.1 cm

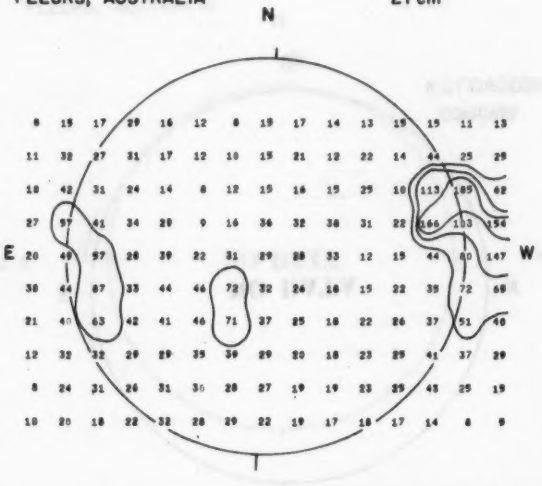


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

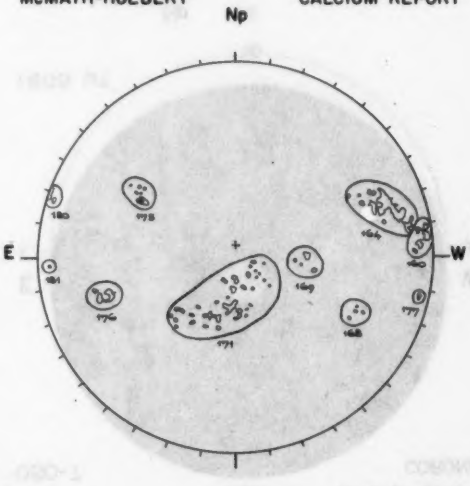


Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT

CALCIUM REPORT



POOR	D
60 - 2600	3.0
64 - 3300	3.5
76 - 0800	3.0

1445 UT

20-21 UT

02-03 UT Brightness Unit 1,700° K

1445 UT

RAMEY AFB

Np

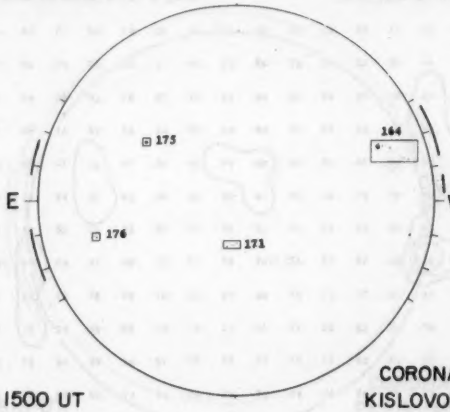
Hα

1312 UT

SACRAMENTO PEAK

Np

SUNSPOTS



1500 UT

CORONA
KISLOVODSK

NRL
OSO-7

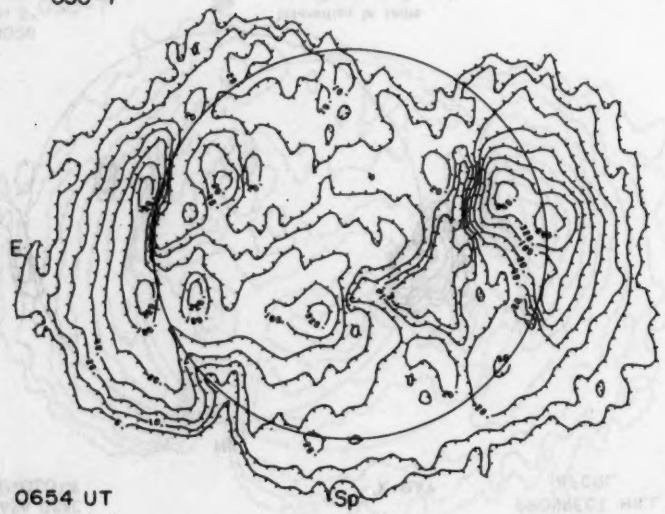
Np

WHITE-LIGHT
CORONA

2319 UT

NASA GSFC
OSO-7

Np



0654 UT

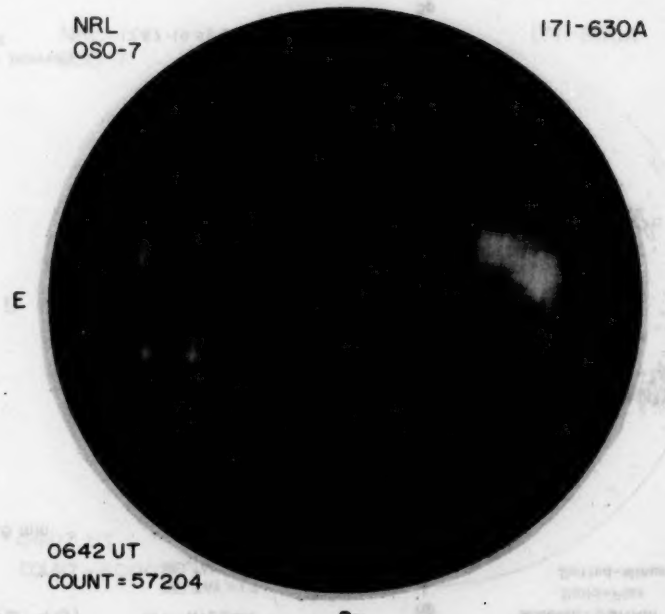
FE XV
284A

COUNT = 63761
ROLL = 89.5°
P-TH = 5.90

Np

NRL
OSO-7

171-630A



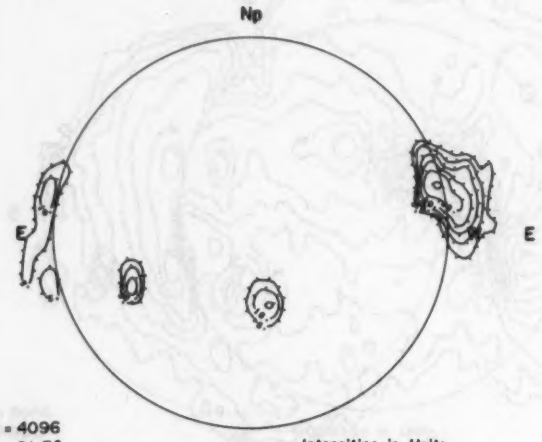
0642 UT
COUNT = 57204

43
Jan 73

JANUARY 12, 1973 (P = -3.23, B_o = -4.28, L_o = 56.46)

NASA GSFC
OSO-7

X-RAY



COUNT = 4096
ROLL = 91.3°
P-TH = 5.82

0542 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

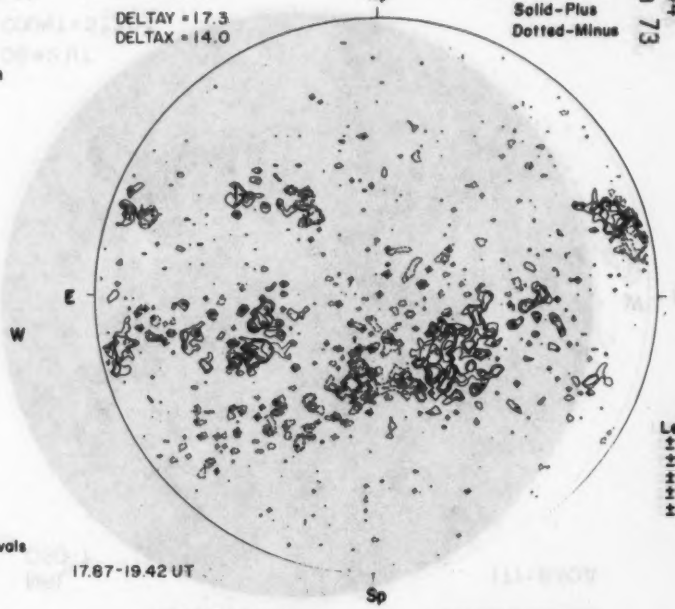
8.6 mm

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.3
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

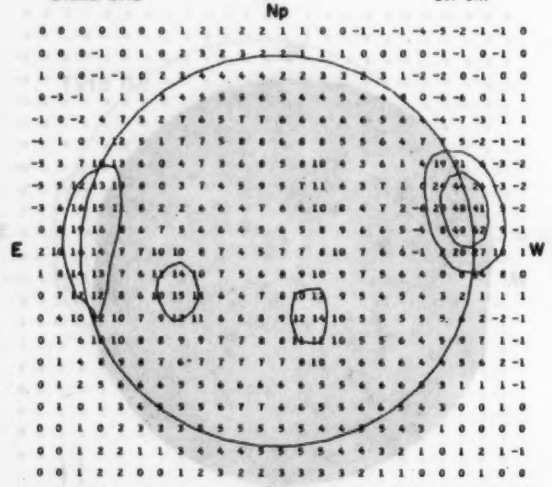


Levels
±5
±10
±20
±40
±80

17.87-19.42 UT

STANFORD

9.1 cm

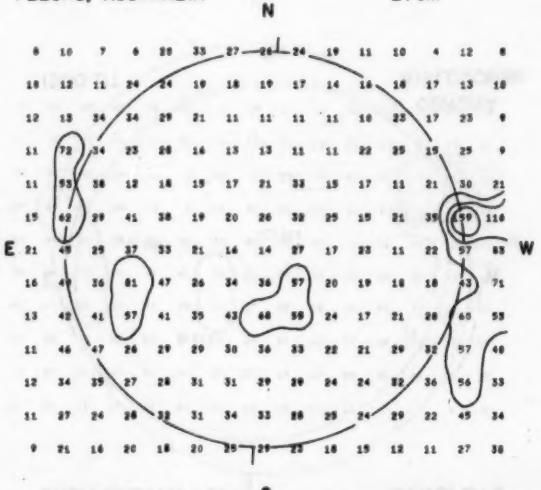


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

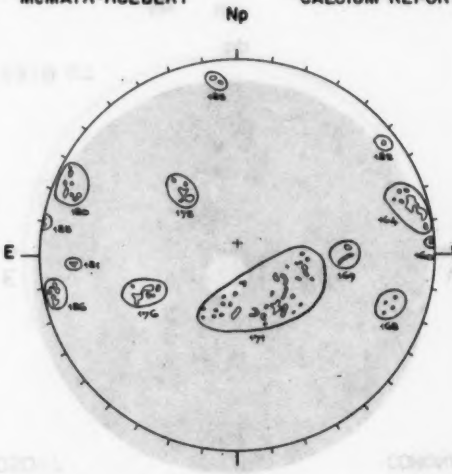


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



GOOD	S
64 - 3000 -	3.5
71 - 2200 -	3.0
75 - 0700 -	2.5
76 - 0900 -	3.5

1415 UT

20-21 UT

02-03 UT Brightness Unit 1,700° K

1415 UT

RAMEY AFB
12

Np

Hα

E W

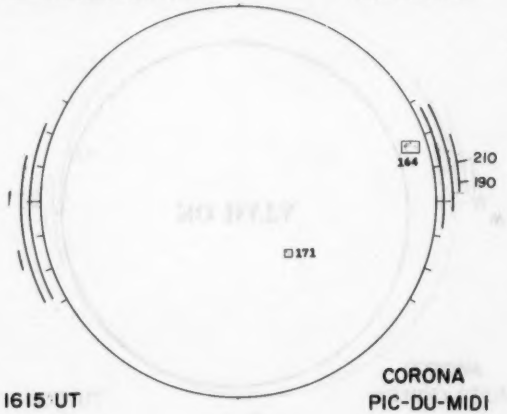
1314 UT

Sp

SACRAMENTO PEAK

Np

SUNSPOTS



1615 UT

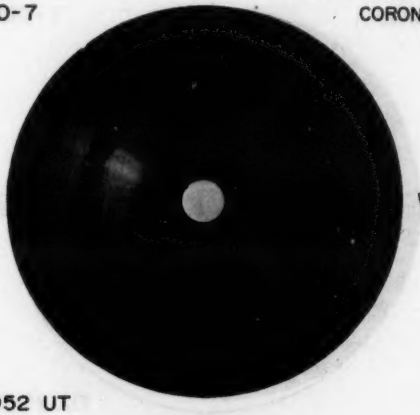
CORONA
PIC-DU-MIDI

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



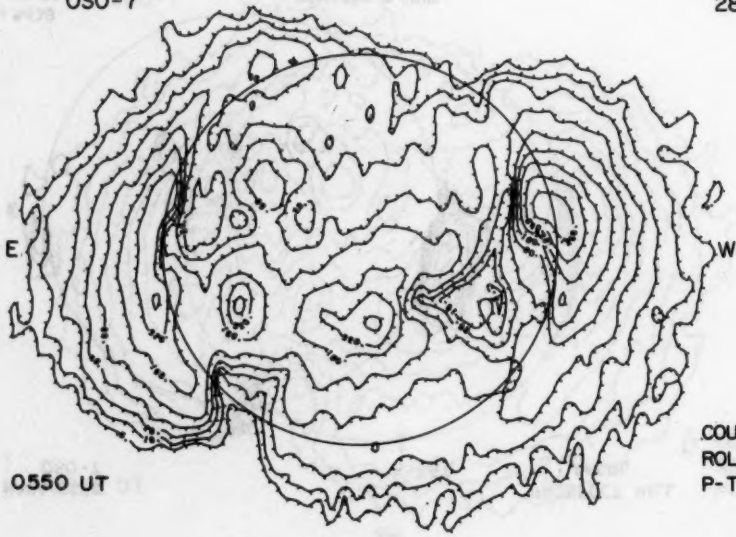
E W

2052 UT

Sp

NASA GSFC
OSO-7

Np



E W

0550 UT

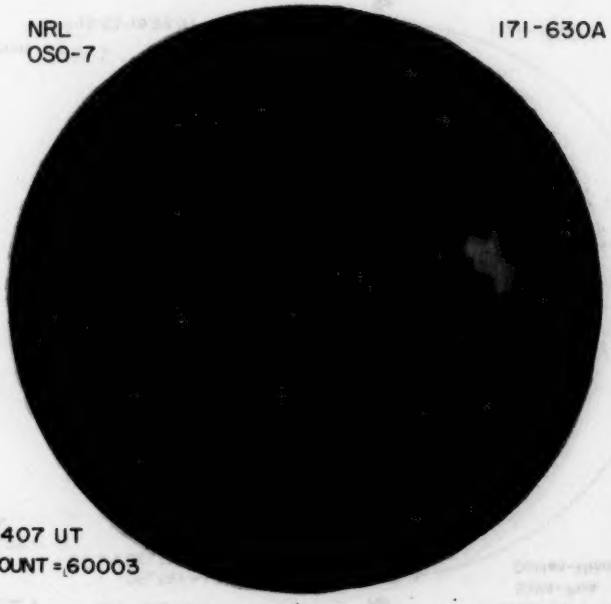
FE XV
284A

COUNT = 116016
ROLL = 91.3°
P-TH = 5.82

Np

NRL
OSO-7

171-630A

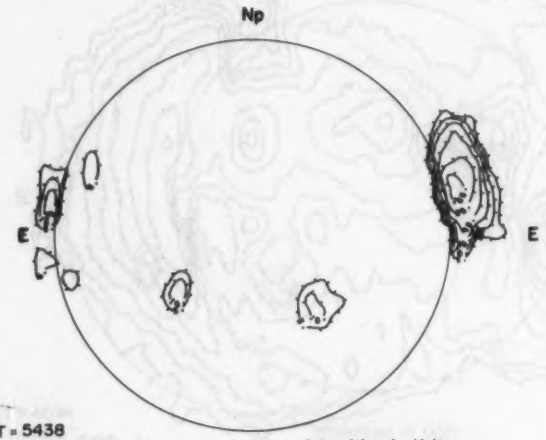


E W

0407 UT
COUNT = 60003

JANUARY 13, 1973 (P=-3.71, B_o=-4.38, L_o=43.29)

NASA GSFC
OSO-7
X-RAY



COUNT = 5438
ROLL = 92.9°
P-TH = 5.80

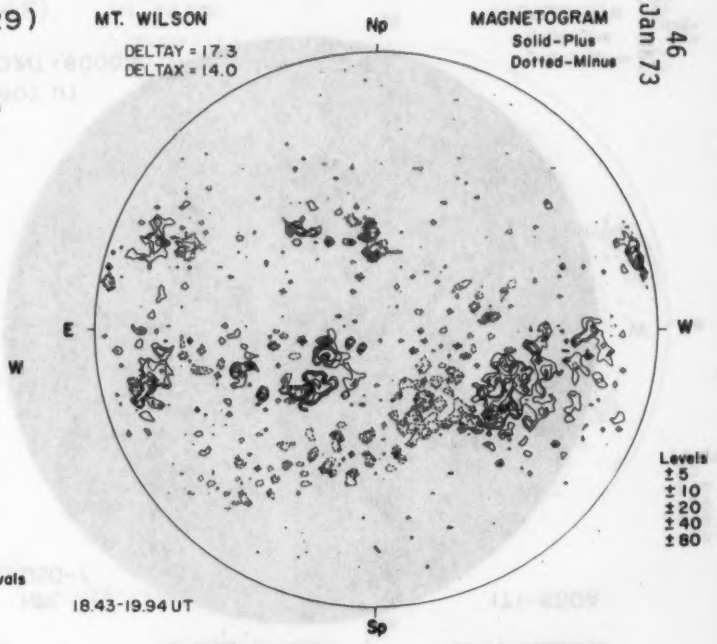
0812 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL
8.6 mm

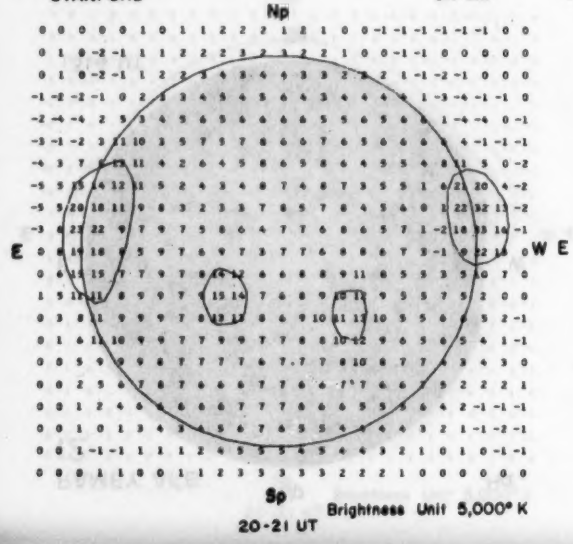
Contours in Intervals of 200° K

MT. WILSON
MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 17.3
DELTAX = 14.0



18.43-19.94 UT

STANFORD
9.1 cm



Brightness Unit 5,000° K

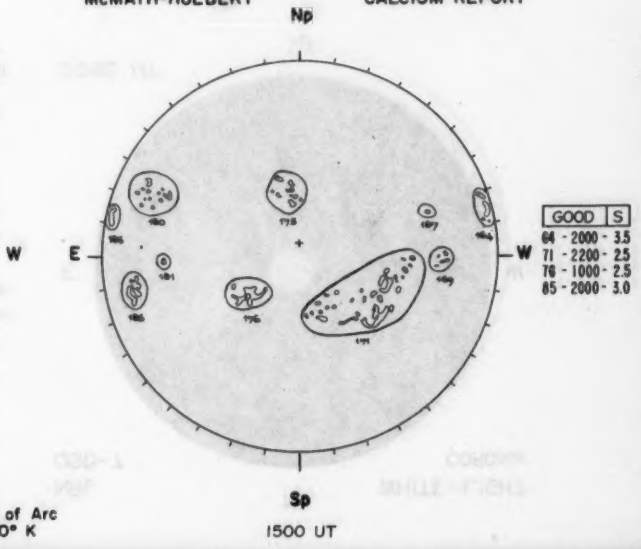
20-21 UT

FLEURS, AUSTRALIA
21 cm

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT
CALCIUM REPORT



1500 UT

RAMEY AFB
Np

20-21 UT Brightness Unit 5,000° K

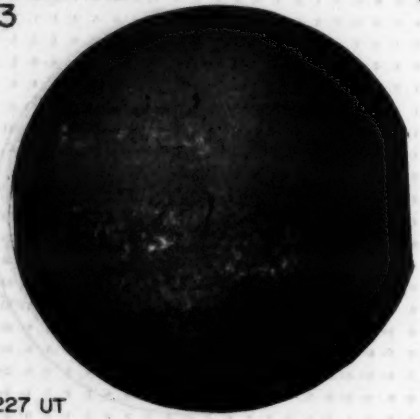
02-03 UT Resolution 3 Minutes of Arc Brightness Unit 1,700° K

1500 UT

RAMEY AFB
13

Np

Hα



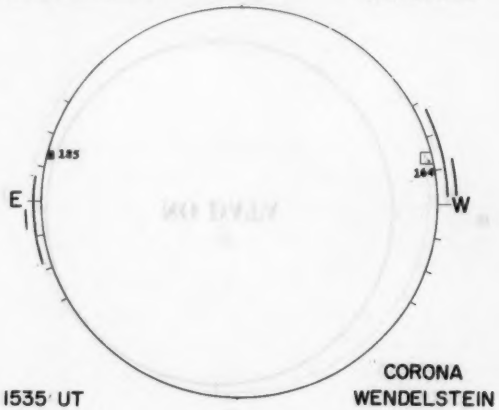
1227 UT

Sp

SACRAMENTO PEAK

Np

SUNSPOTS



1535 UT

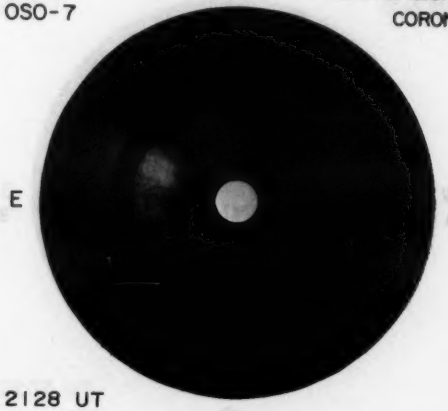
CORONA
WENDELSTEIN

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

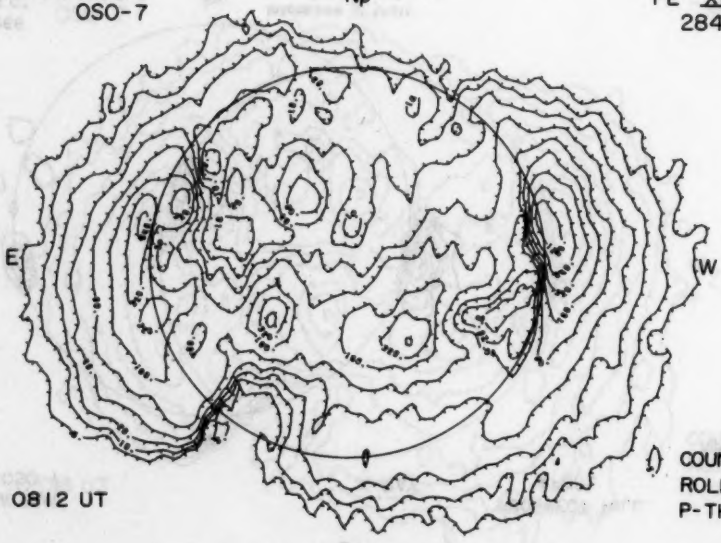


2128 UT

Sp

NASA GSFC
OSO-7

Np



0812 UT

Sp

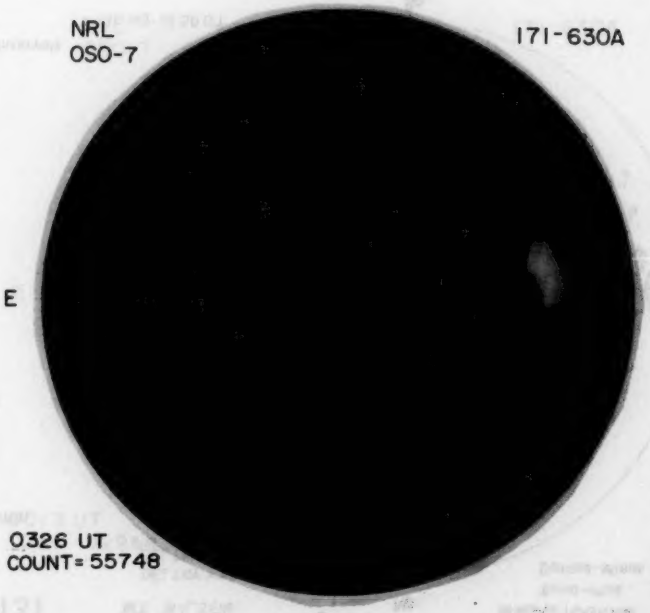
FE XV
284A

COUNT = 103610
ROLL = 92.9°
P-TH = 5.80

Np

NRL
OSO-7

171-630A



0326 UT
COUNT= 55748

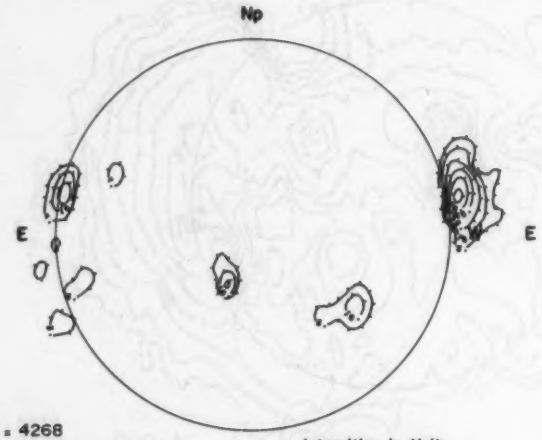
Sp

47
Jan 73

JANUARY 14, 1973 (P=-4.18, B_o=-4.49, L_o=30.13)

NASA GSFC
OSO-7

X-RAY



COUNT = 4268
ROLL = 94.0°
P-TH = 5.70

0524 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

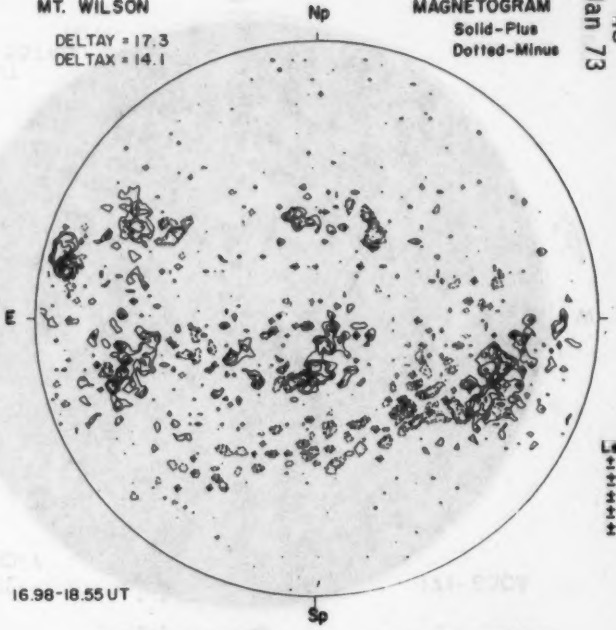
8.6 mm

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.3
DELTAX = 14.1

MAGNETOGRAM
Solid-Plus
Dotted-Minus

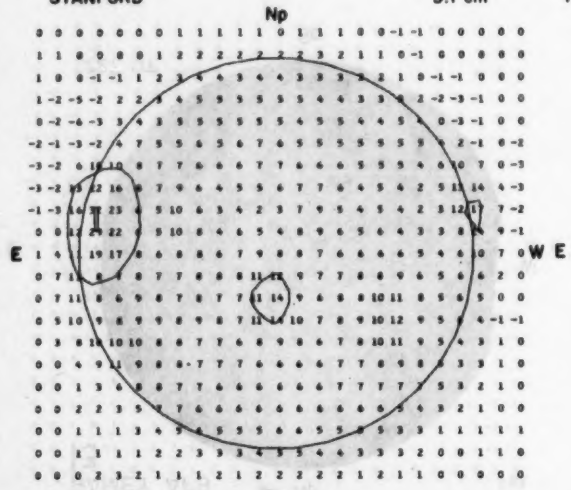


Levels
±5
±10
±20
±40
±80

16.98-18.55 UT

STANFORD

9.1 cm

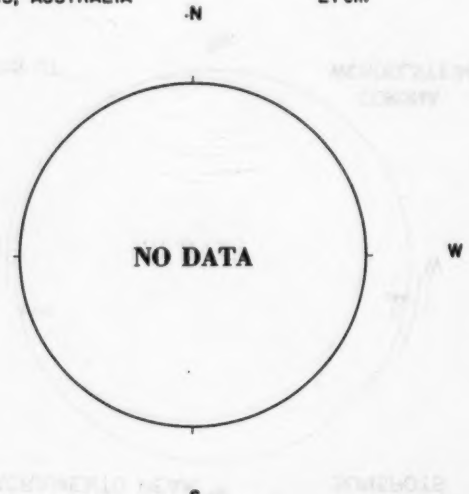


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm



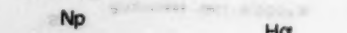
02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

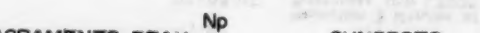
McMATH-HULBERT

CALCIUM REPORT

RAMEY AFB



Hα



Sp

20-21 UT Brightness Unit 5,000° K

S

02-03 UT Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

Sp

RAMEY AFB Np Hα

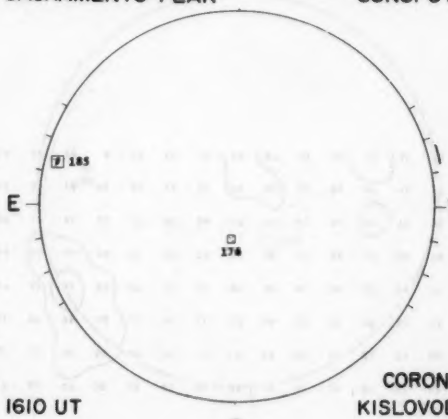
14

E W

1222 UT

Sp

SACRAMENTO PEAK Np SUNSPOTS



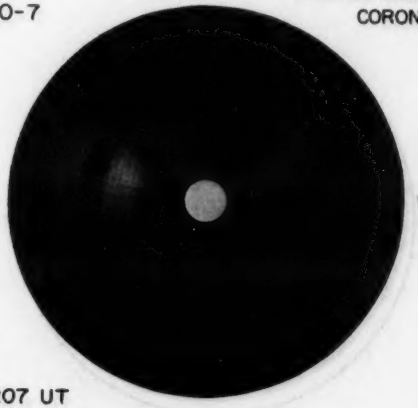
E W

1610 UT

Sp

CORONA
KISLOVODSK

NRL Np WHITE-LIGHT
OSO-7 CORONA



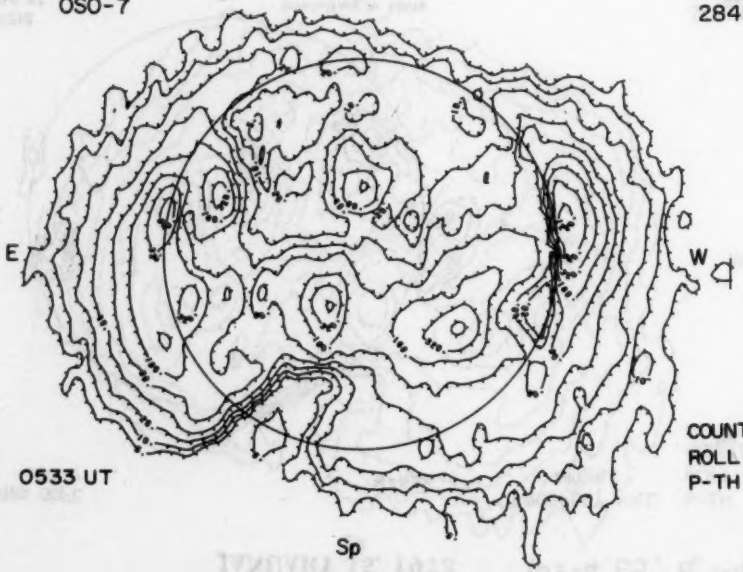
E W

2207 UT

Sp

NASA GSFC Np

OSO-7



E W

0533 UT

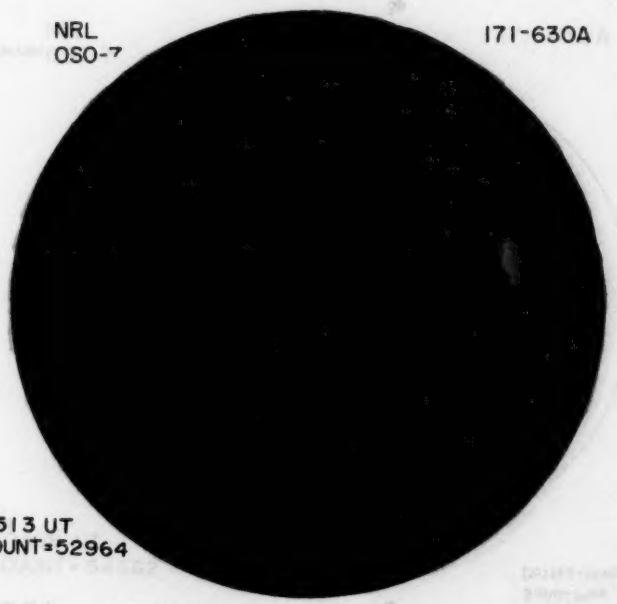
Sp

FE XV
284A

COUNT = 100421
ROLL = 94.0°
P-TH = 5.70

Np

NRL 171-630A
OSO-7



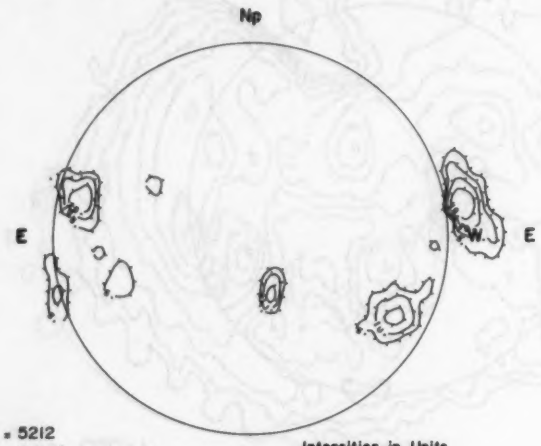
E W

0513 UT
COUNT=52964

JANUARY 15, 1973 (P=-4.65, B_o=-4.59, L_o= 16.96)

NASA GSFC
OSO-7

X-RAY



COUNT = 5212
ROLL = 94.7°
P-TH = 5.60

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

0438 UT

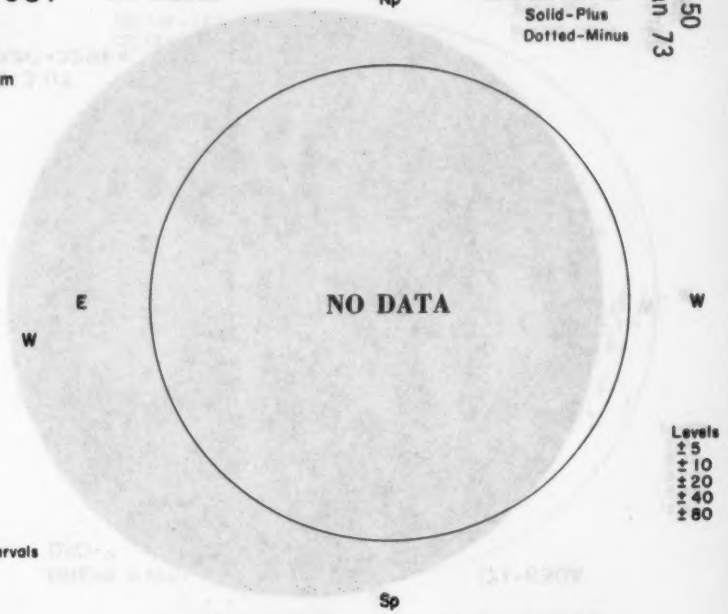
PROSPECT HILL
AFCRL

8.6 mm

Contours in Intervals of 200° K

MT. WILSON

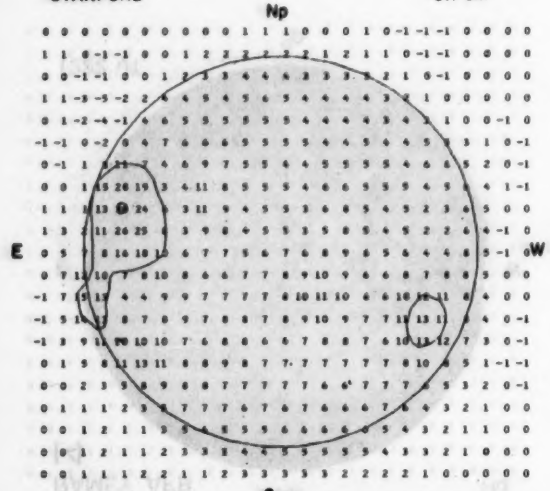
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

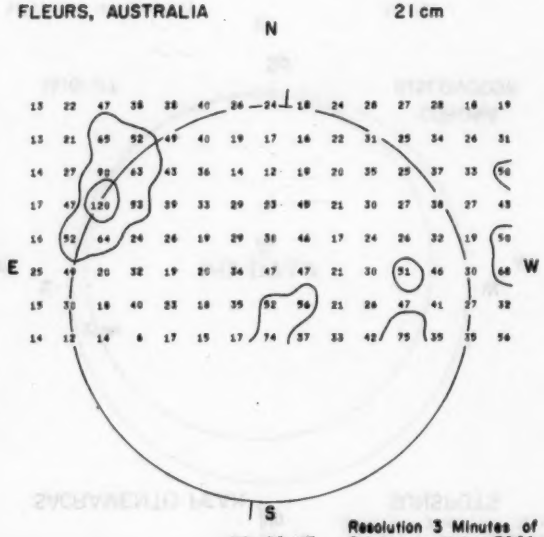


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

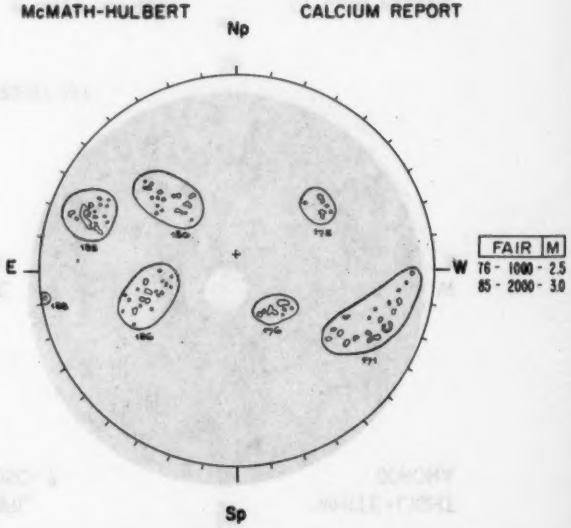


Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT

CALCIUM REPORT

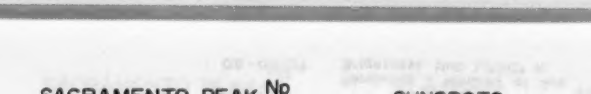


FAIR	M
76 - 1000 - 2.5	
85 - 2000 - 3.0	

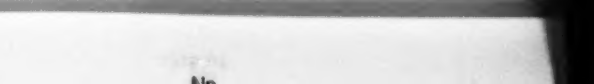
2030 UT

BOULDER

SACRAMENTO PEAK



SUNSPOTS



20-21 UT Brightness Unit 5,000° K

02-03 UT Resolution 3 Minutes of Arc Brightness Unit 1,700° K

2030 UT

BOULDER
15

Np

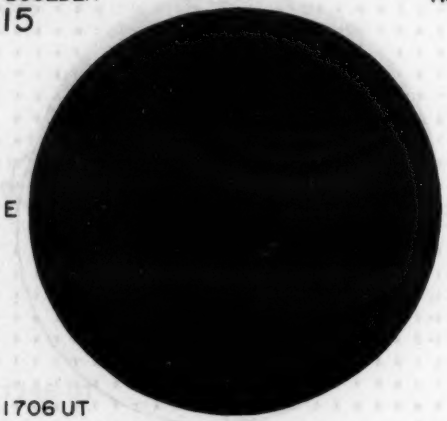
Hα

E

W

1706 UT

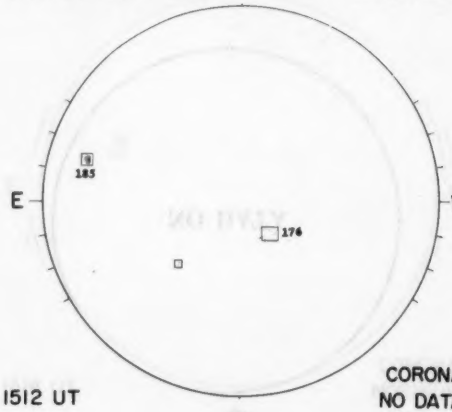
Sp



SACRAMENTO PEAK

Np

SUNSPOTS



E

W

1512 UT

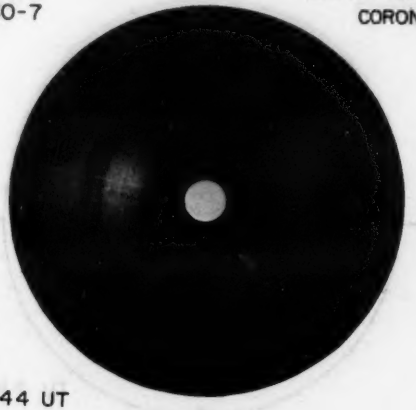
Sp

CORONA
NO DATA

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E

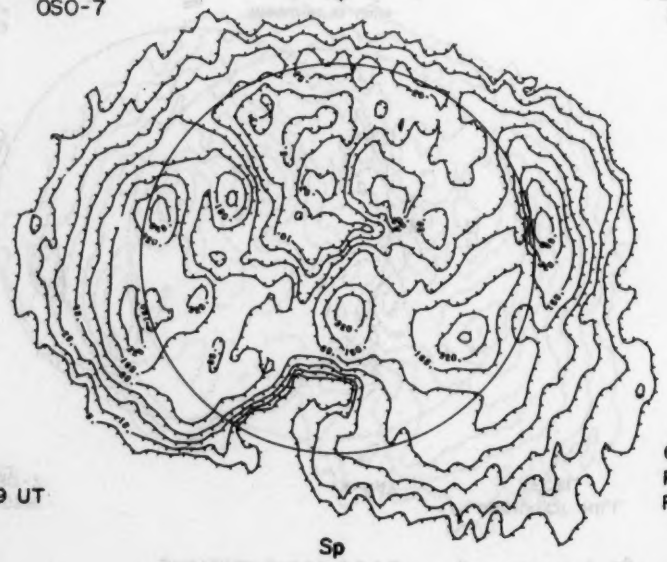
W

2244 UT

Sp

NASA GSFC
OSO-7

Np



E

W

0429 UT

Sp

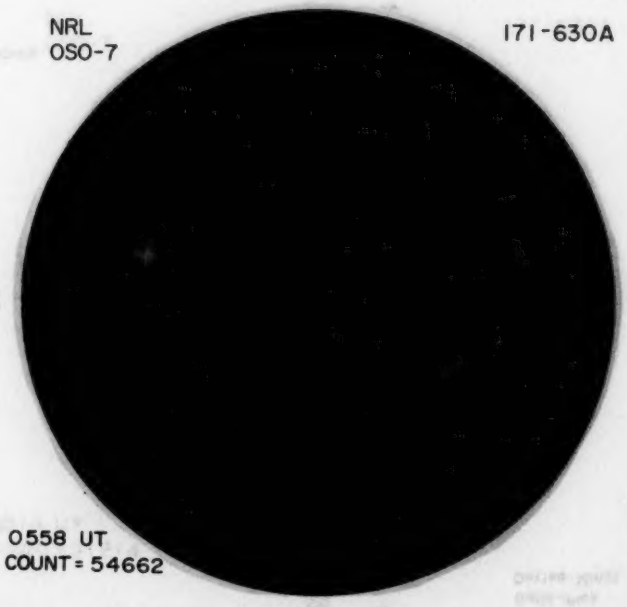
FE XV
284A

COUNT = 93991
ROLL = 94.7°
P-TH = 5.60

Np

NRL
OSO-7

171-630A



E

W

0558 UT
COUNT = 54662

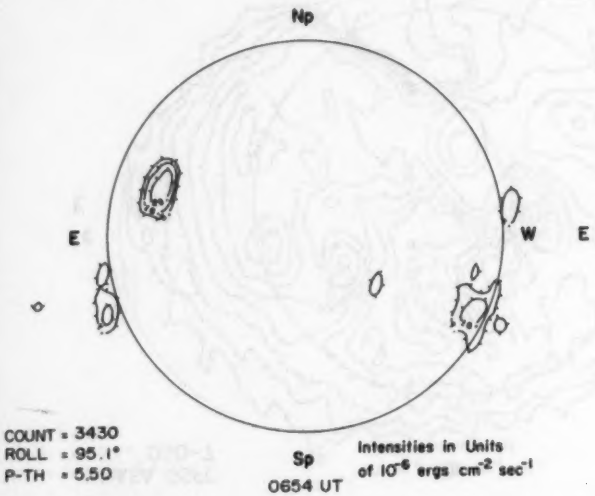
Sp

51
Jan 73

JANUARY 16, 1973 (P=-5.12, B_o=-4.69, L_o=3.79)

NASA GSFC
OSO-7

X-RAY



COUNT = 3430
ROLL = 95.1°
P-TH = 5.50

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

0654 UT

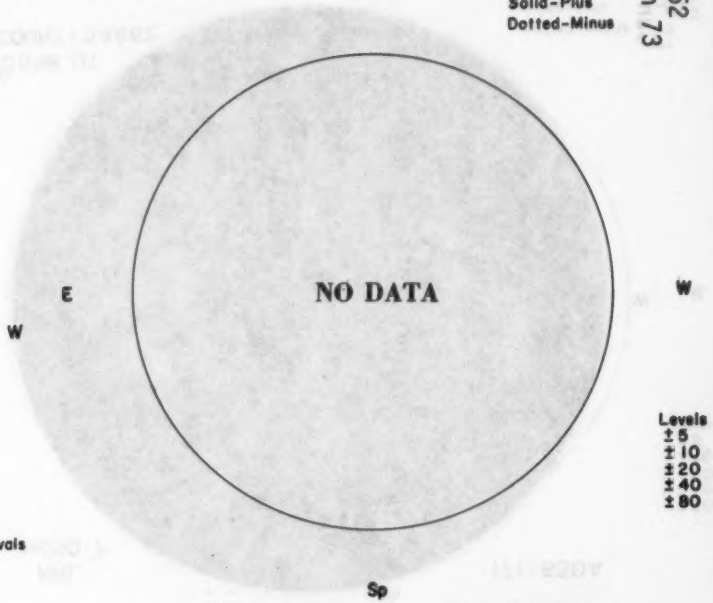
PROSPECT HILL
AFCRL

8.6 mm

Contours in intervals of 200° K

MT. WILSON

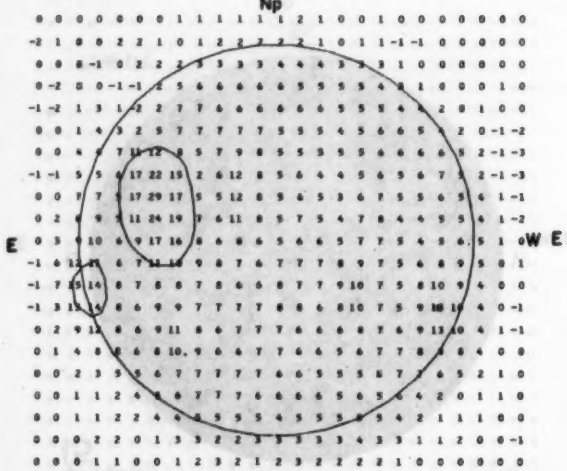
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm



Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

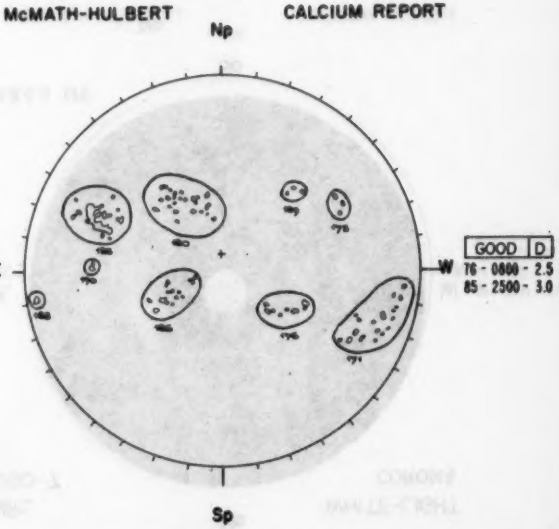
21 cm

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT

CALCIUM REPORT



1715 UT

BOULDER

Hα

SACRAMENTO PEAK

SUNSPOTS

NRL

WHITE LIGHT

20-21 UT

Brightness Unit 5,000° K

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

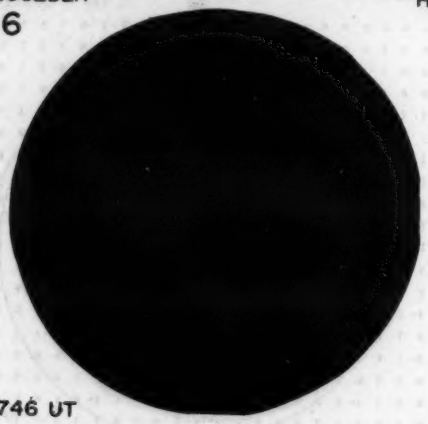
1715 UT

BOULDER

16

Np

Hα



E

W

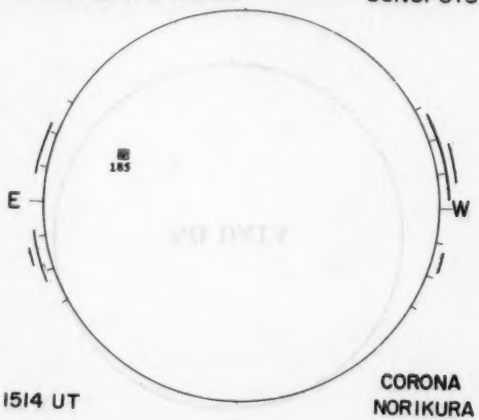
1746 UT

Sp

SACRAMENTO PEAK

Np

SUNSPOTS



E

W

1514 UT

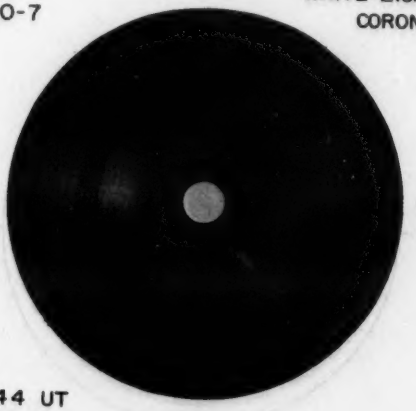
Sp

CORONA
NORIKURA

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E

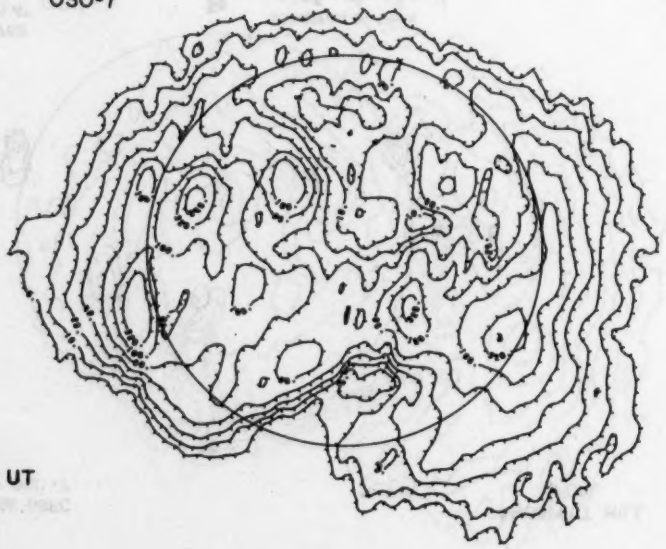
W

1844 UT

Sp

NASA GSFC
OSO-7

Np



E

W

0654 UT

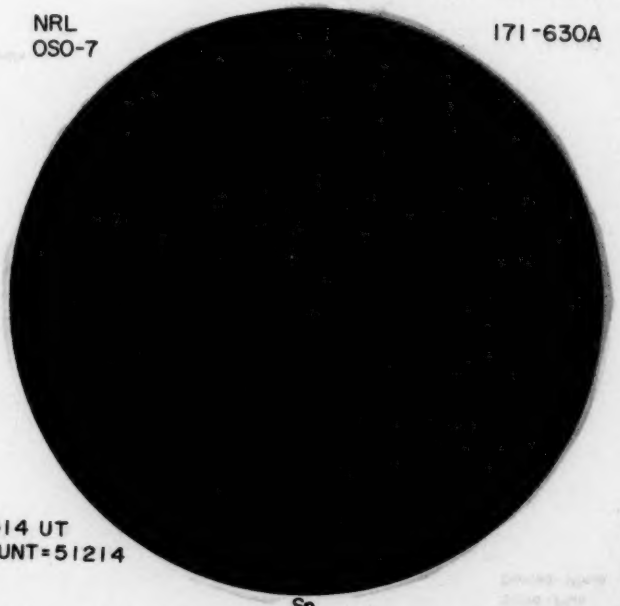
FE XV
284A

COUNT = 80502
ROLL = 95.1°
P-TH = 5.50

NRL
OSO-7

Np

171-630A



E

W

0514 UT
COUNT = 51214

Sp

53
Jan 73

JANUARY 17, 1973 (P=-5.59, B_o=-4.78, L_o= 350.62)

NASA GSFC
OSO-7

X-RAY

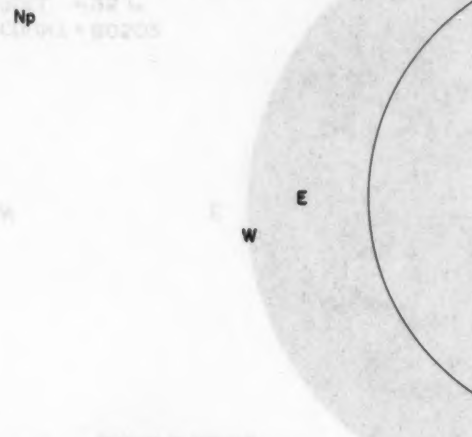
COUNT = 3762
ROLL = 95.4°
P-TH = 5.42

0555 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

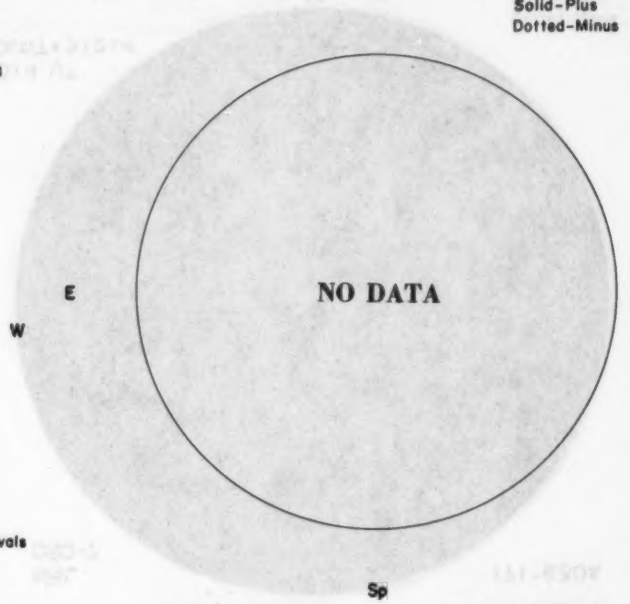
8.6 mm



Contours in intervals of 200° K

MT. WILSON

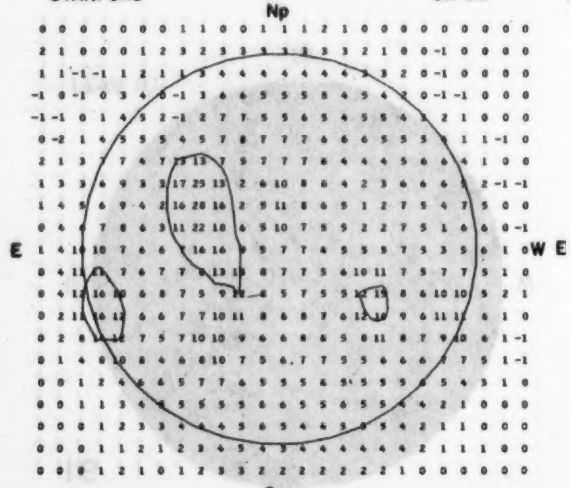
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm



20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

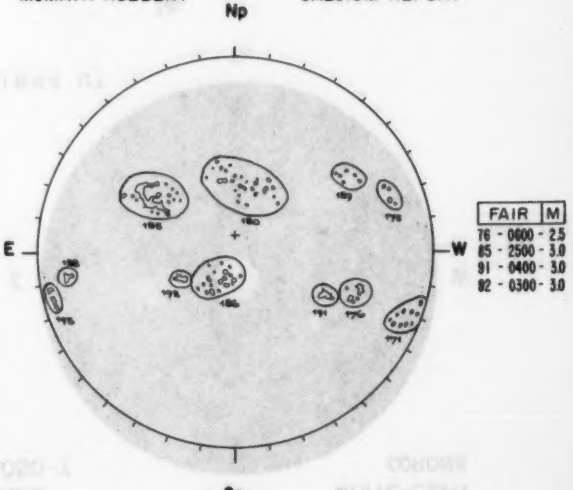
21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT

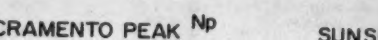


1750 UT

RAMEY AFB
L7

Hα

SACRAMENTO PEAK



SUNSPOTS

NRL

20-21 UT Brightness Unit 5,000° K

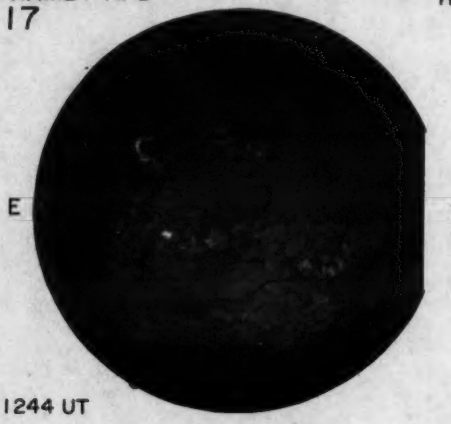
02-03 UT Brightness Unit 1,700° K

1750 UT

RAMEY AFB
17

Np

Hα



E W

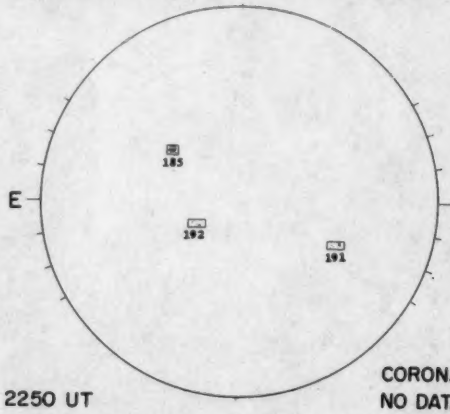
1244 UT

Sp

SACRAMENTO PEAK

Np

SUNSPOTS



E W

2250 UT

Sp

CORONA
NO DATA

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

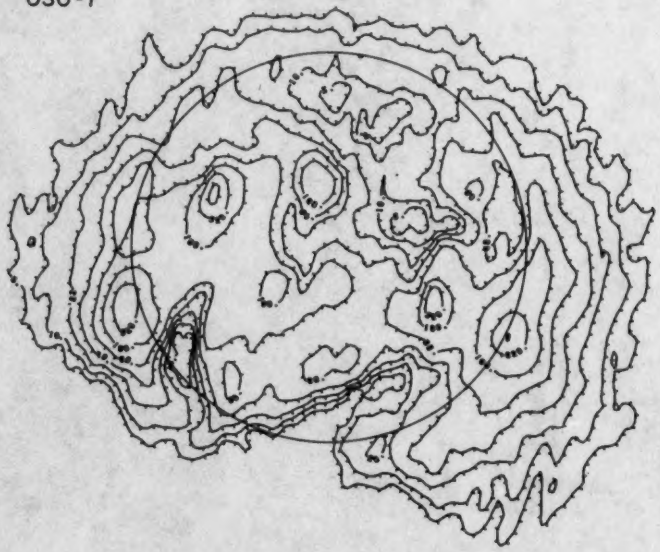
E W

2053 UT

Sp

NASA GSFC
OSO-7

Np



E W

0612 UT

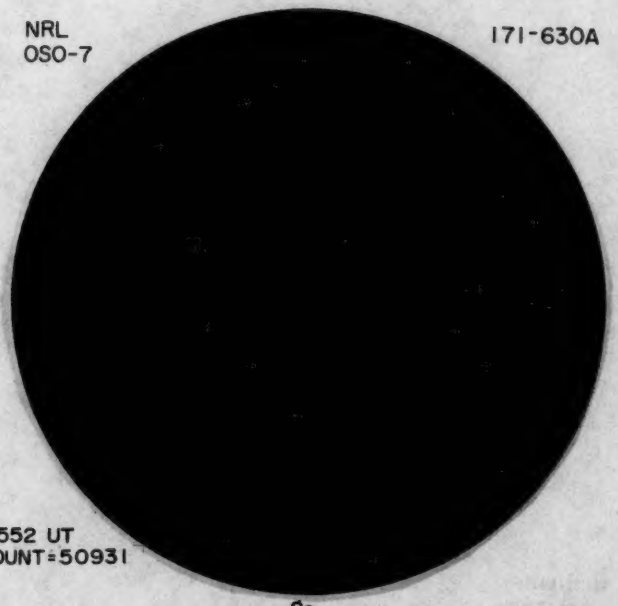
FE XV
284A

COUNT = 74052
ROLL = 95.4
P-TH = 5.42

Np

NRL
OSO-7

171-630A



E W

0552 UT
COUNT=50931

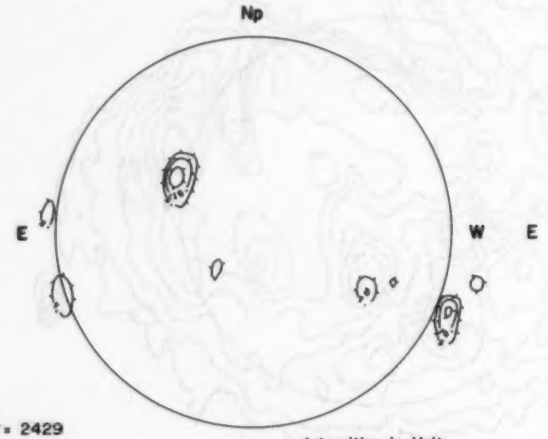
Sp

55
Jan 73

JANUARY 18, 1973 (P=-6.05, B_o=-4.88, L_o=337.46)

NASA GSFC
OSO-7

X-RAY



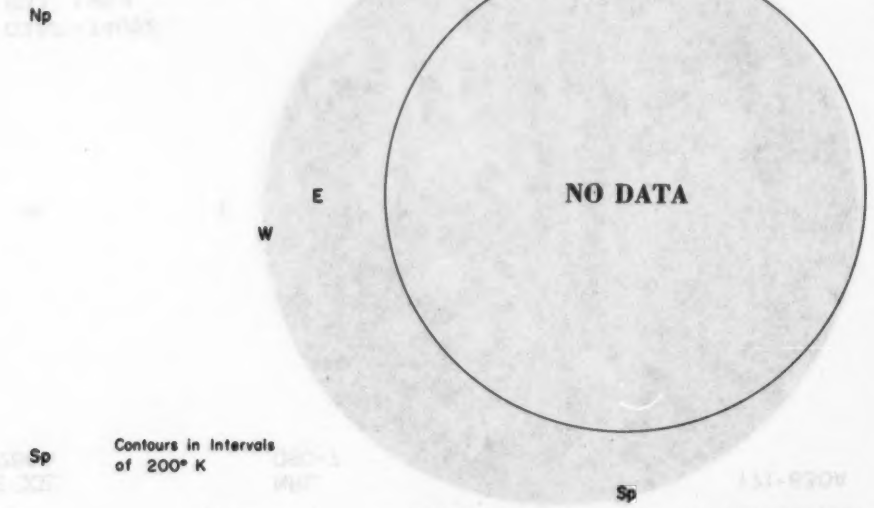
COUNT = 2429
ROLL = 96.0°
P-TH = 5.35

0333 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm



Contours in Intervals of 200° K

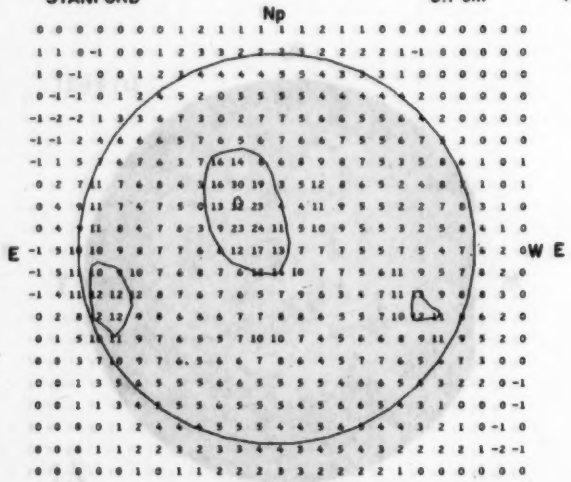
MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus

Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm



20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

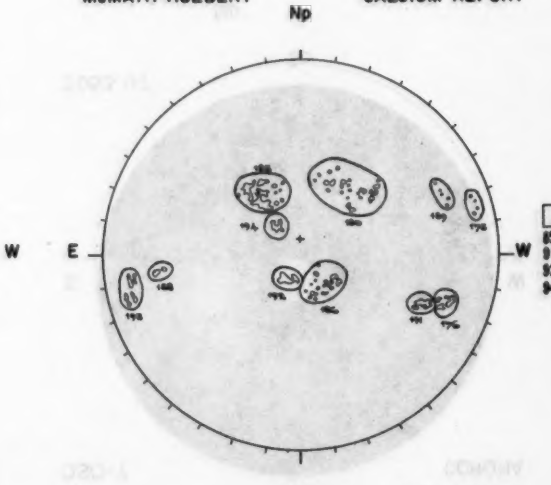
21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT

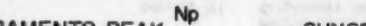


FAIR	M
85 - 2000 - 3.5	
91 - 0400 - 2.5	
92 - 0500 - 2.5	
94 - 0300 - 3.0	

1635 UT

RAMEY AFB

SACRAMENTO PEAK



20-21 UT

02-03 UT Brightness Unit 1,700° K

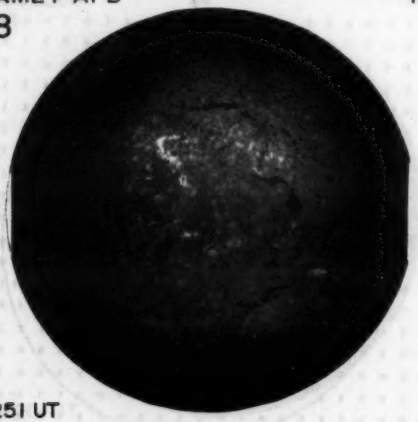
1635 UT

RAMEY AFB

18

Np

Hα



E

W

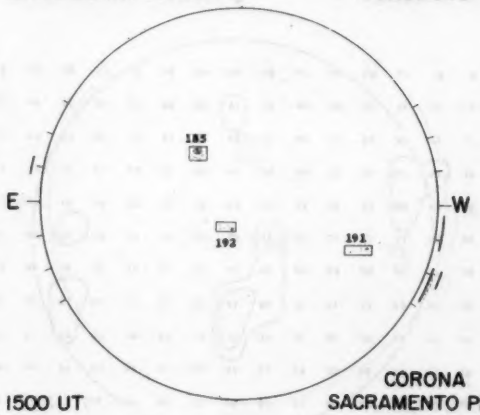
1251 UT

Sp

SACRAMENTO PEAK

Np

SUNSPOTS



E

W

1500 UT

Sp

CORONA
SACRAMENTO PEAK

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

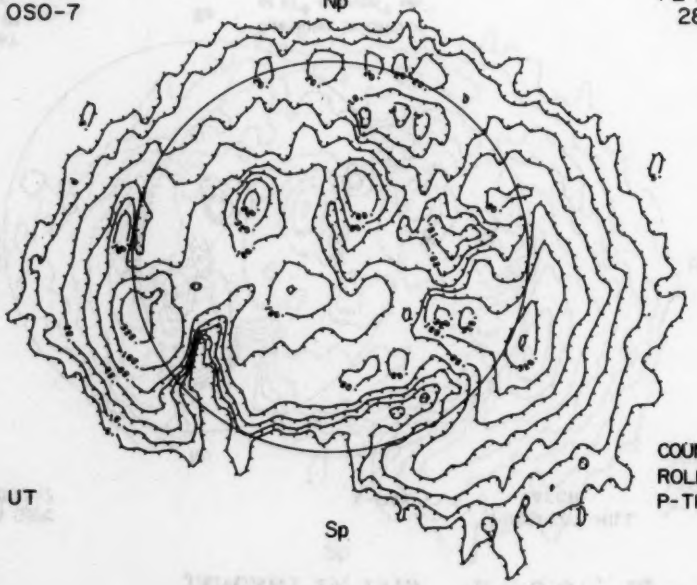
W

0755 UT

Sp

NASA GSFC
OSO-7

Np



E

W

0333 UT

Sp

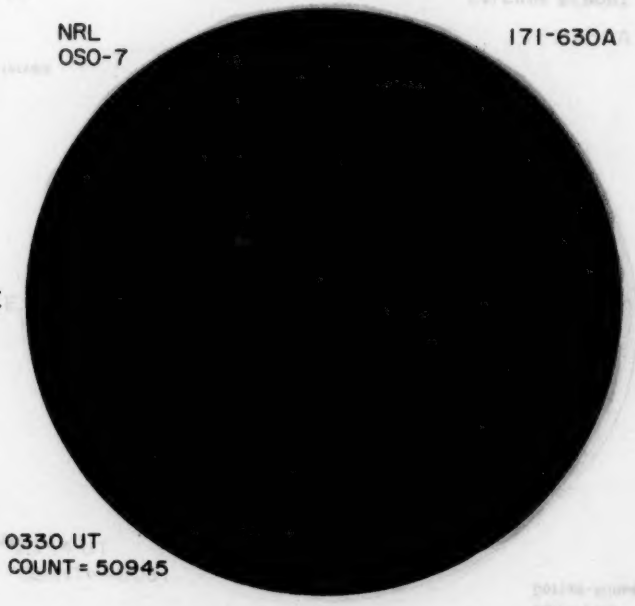
FE XV
284A

COUNT = 82090
ROLL = 96.0°
P-TH = 5.35

Np

NRL
OSO-7

171-630A



E

W

0330 UT
COUNT = 50945

Sp

57
Jan 73

JANUARY 19, 1973 (P=-6.51, B_o=-4.97, L_o=324.29)

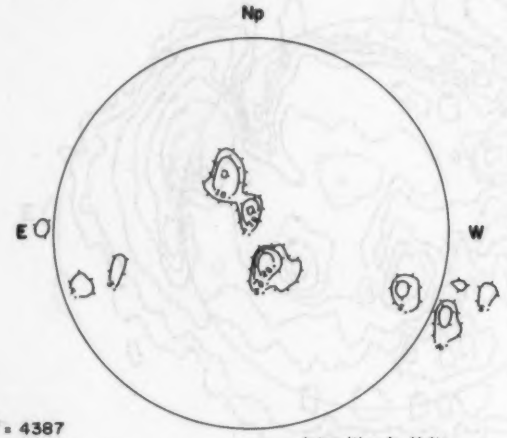
MT. WILSON

Np

MAGNETOGRAM
Solid-Plus
Dotted-Minus

NASA GSFC
OSO-7

X-RAY



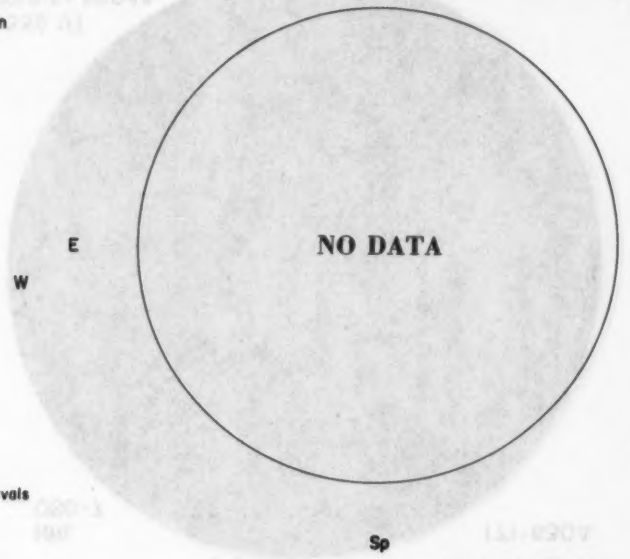
COUNT = 4387
ROLL = 96.8°
P-TH = 5.28

0529 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm



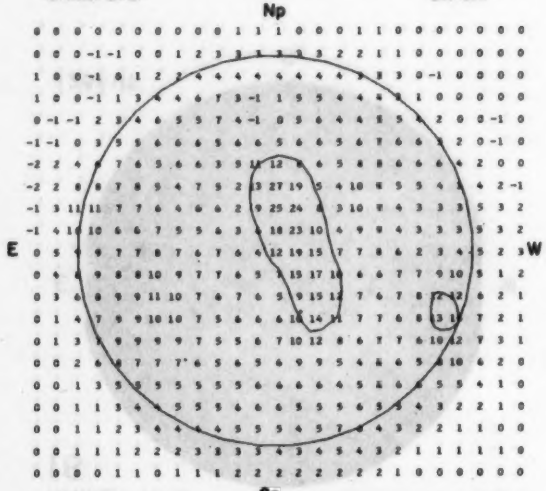
Levels
±5
±10
±20
±40
±80

Sp

Contours in Intervals of 200° K

STANFORD

9.1 cm

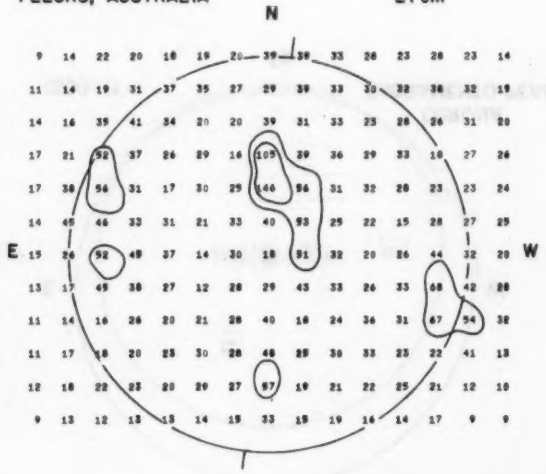


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

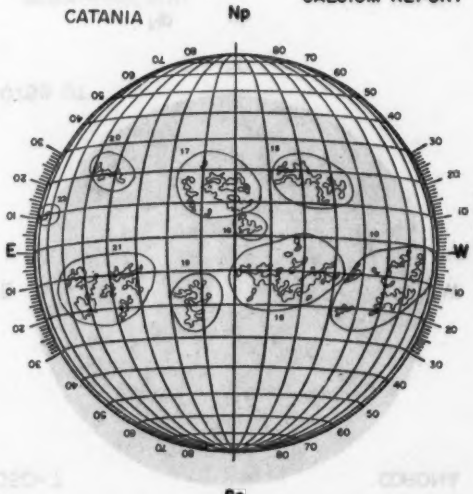


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

CATANIA

CALCIUM REPORT



	POOR	GD
10-5119		
16-4416		
18-0658		
17-3456		
21-5125		

1235 UT

BOULDER

Np

Hα

20-21 UT

02-03 UT Brightness Unit 1,700° K

1235 UT

BOULDER
19

Np

Hα

E

W

Sp

1720 UT

SACRAMENTO PEAK

Np

SUNSPOTS

185

192

191

E

W

Sp

1525 UT

CORONA
KISLOVODSK

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

W

Sp

2036 UT

NASA GSFC
OSO-7

Np

E

W

Sp

0537 UT

FE XV
284A

COUNT = 80009
ROLL = 96.8°
P-TH = 5.28

NRL
OSO-7

Np

171-630A

E

W

Sp

2354 UT
COUNT = 48031

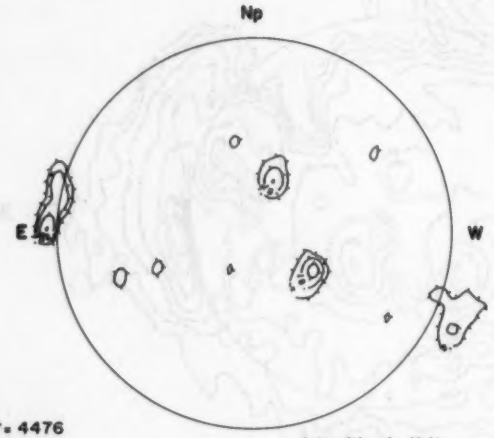
59
Jan 73

JANUARY 20, 1973 (P=-6.97, B_o=-5.07, L_o= 311.12)

60 Jan 73

NASA GSFC
OSO-7

X-RAY



COUNT = 4476
ROLL = 96.1°
P-TH = 5.20

0252 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

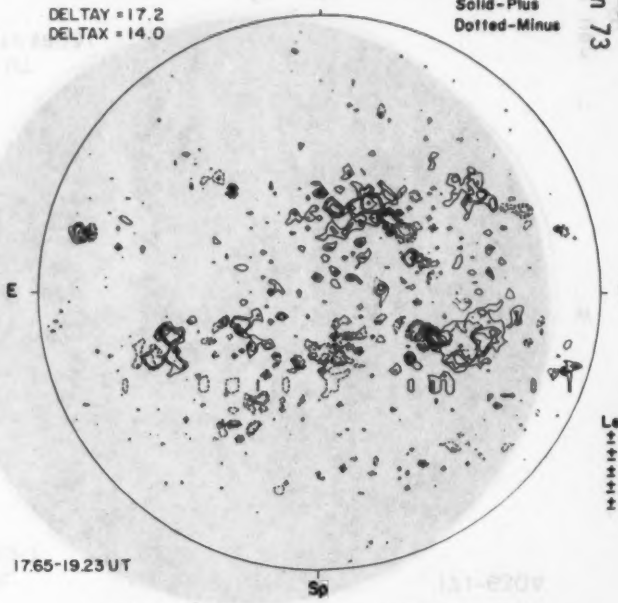
8.6 mm

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.2
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

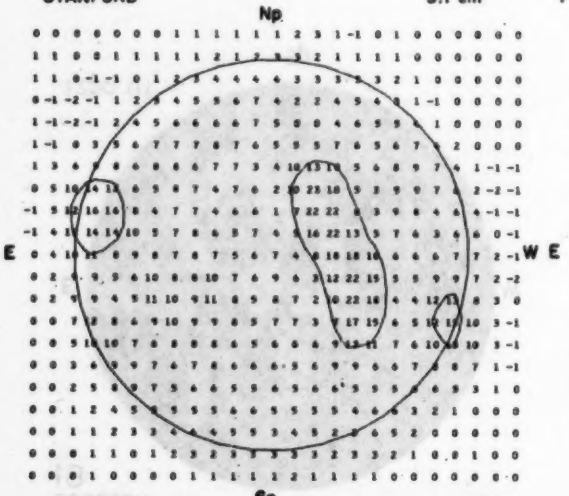


Levels
±5
±10
±20
±40
±80

17.65-19.23 UT

STANFORD

9.1 cm



Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

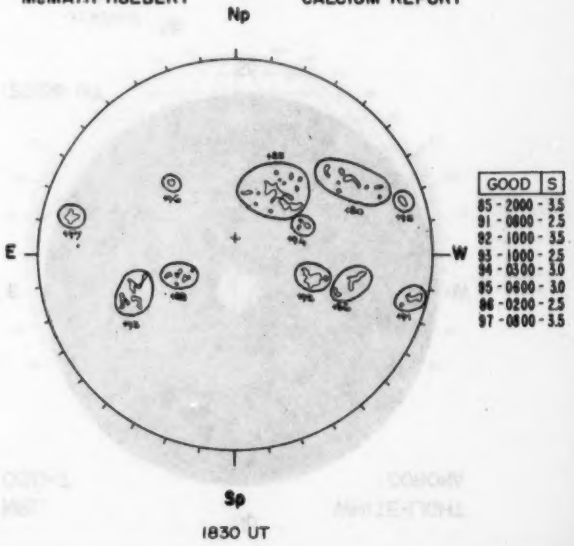
21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



GOOD	S
85 - 2000 - 3.5	
91 - 0800 - 2.5	
92 - 1000 - 3.5	
93 - 1000 - 2.5	
94 - 0300 - 3.0	
95 - 0600 - 3.0	
96 - 0200 - 2.5	
97 - 0800 - 3.5	

1830 UT

BOULDER

20-21 UT

02-03 UT Brightness Unit 1,700 Å

1830 UT

BOULDER
20

Np

Hα

E

NO DATA

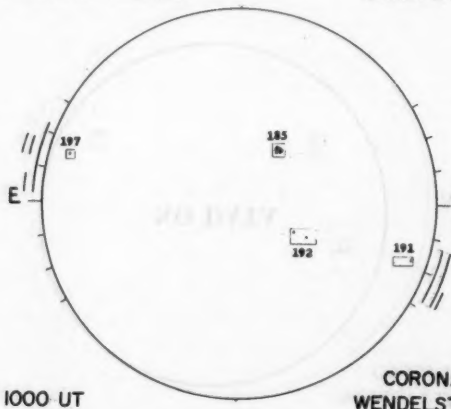
W

Sp

CANARY ISLAND

Np

SUNSPOTS



1000 UT

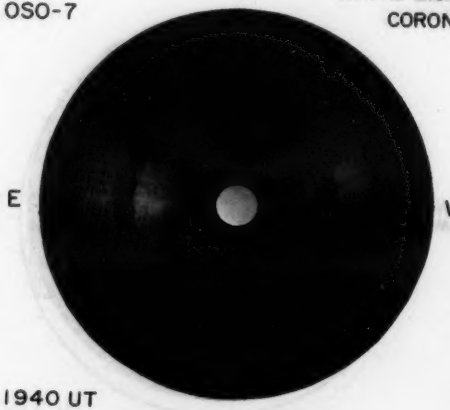
Sp

CORONA
WENDELSTEIN

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

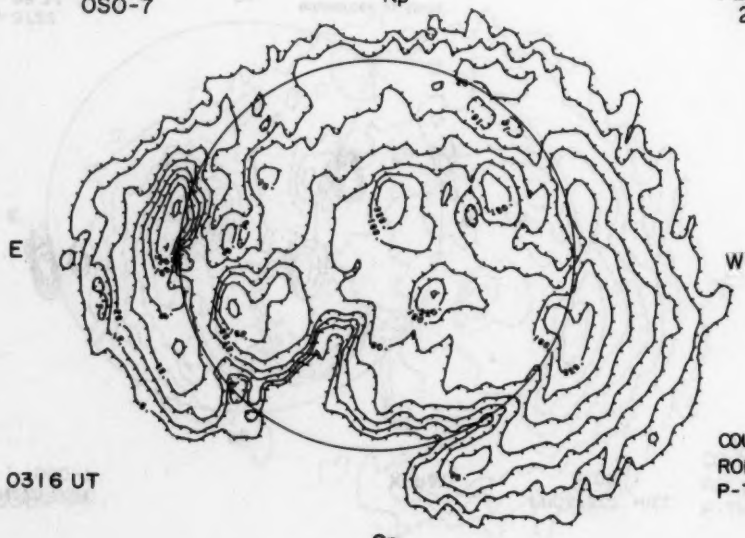


1940 UT

Sp

NASA GSFC
OSO-7

Np



0316 UT

Sp

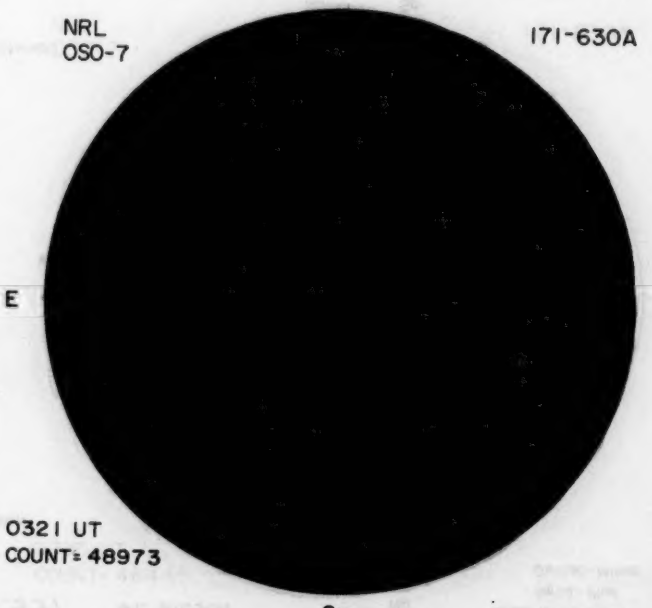
FE XV
284A

COUNT = 78030
ROLL = 96.7°
P-TH = 5.20

Np

NRL
OSO-7

171-630A



0321 UT
COUNT= 48973

Sp

61
Jan 73

JANUARY 21, 1973 (P=-7.42, B_o=-5.16, L_o= 297.95)

62 Jan 73

NASA GSFC
OSO-7

X-RAY

Np

E W

Sp

COUNT = 3722
ROLL = 98.3°
P-TH = 5.10

0339 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

Np

E W

Sp

Contours in intervals of 200° K

MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus

Np

NO DATA

E W

Sp

Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

Np

E W

Sp

20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

N

NO DATA

W E

S

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT

Np

E W

Sp

1600 UT

FAIR	M
85 - 1800 - 3.5	
91 - 0800 - 3.0	
92 - 1400 - 3.5	
93 - 0800 - 2.5	
94 - 0300 - 2.5	
96 - 0300 - 3.0	
97 - 0900 - 3.0	
99 - 0700 - 2.5	

BOULDER

Np

20-21 UT Brightness Unit 5,000° K

02-03 UT Brightness Unit 1,700° K

1600 UT

BOULDER
21

Np

Hα

E

W

Sp

1643 UT

SACRAMENTO PEAK

Np

197

185

192

E

W

Sp

1510 UT

SUNSPOTS

CORONA
WENDELSTEIN

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

W

Sp

2017 UT

NASA GSFC
OSO-7

Np

E

W

0339 UT

FE XV
284A

COUNT = 74838
ROLL = 98.3°
P-TH = 5.10

Np

NRL
OSO-7

171-630A

E

W

Sp

0335 UT
COUNT = 48445

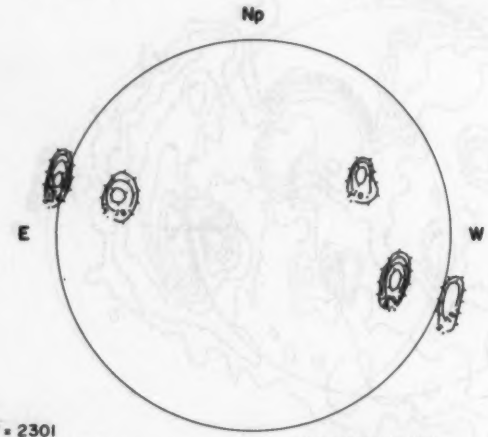
63
Jan 73

JANUARY 22, 1973 (P=-7.87, B_o=-5.25, L_o= 284.79)

64 Jan 73

NASA GSFC
OSO-7

X-RAY



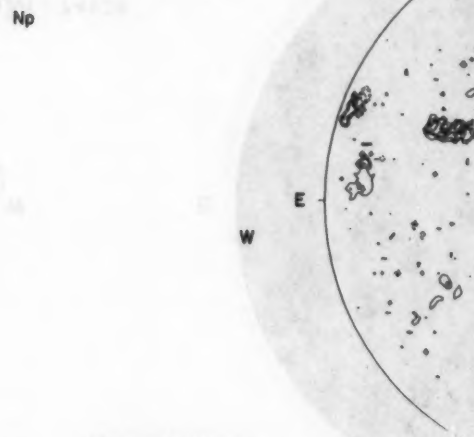
COUNT = 2301
ROLL = 98.5°
P-TH = 5.00

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

0435 UT

PROSPECT HILL
AFCRL

8.6 mm

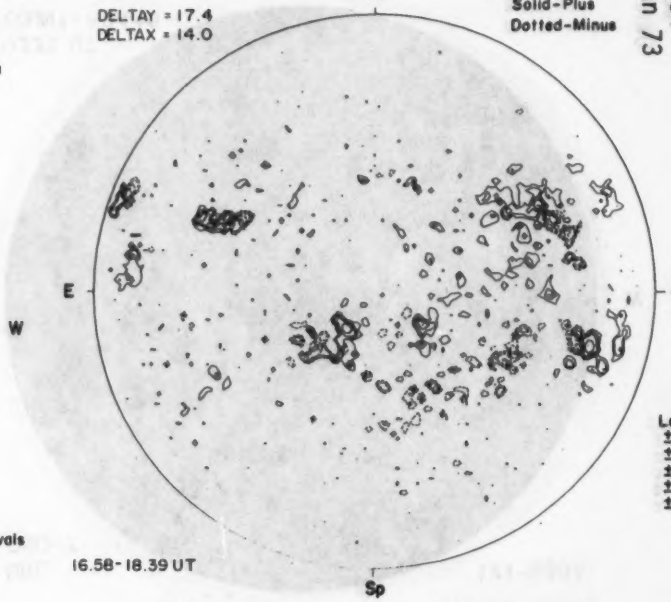


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

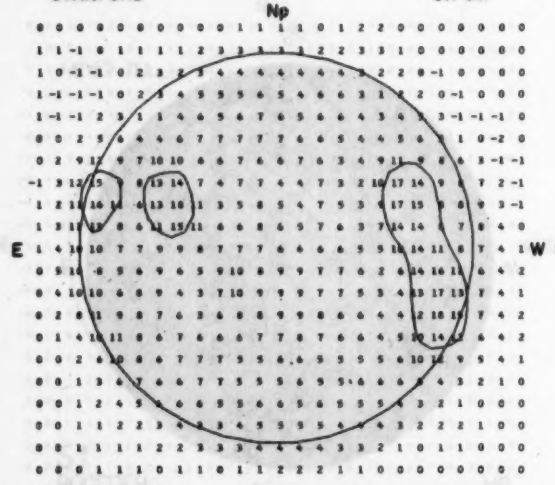


Levels
±5
±10
±20
±40
±80

16.58-18.39 UT

STANFORD

9.1 cm

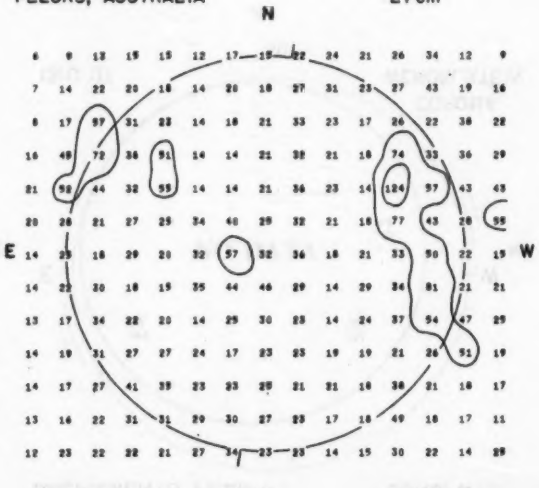


Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

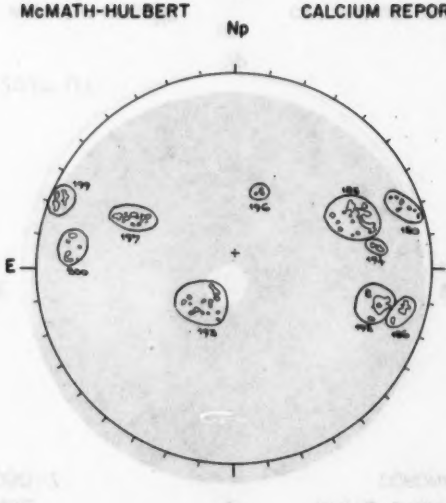


Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT

CALCIUM REPORT



FAIR	D
85 - 1700	- 3.0
92 - 1600	- 3.5
93 - 1000	- 2.5
94 - 0300	- 2.5
97 - 0800	- 2.5
99 - 1200	- 2.5

1755 UT

20-21 UT
Brightness Unit 5,000° K

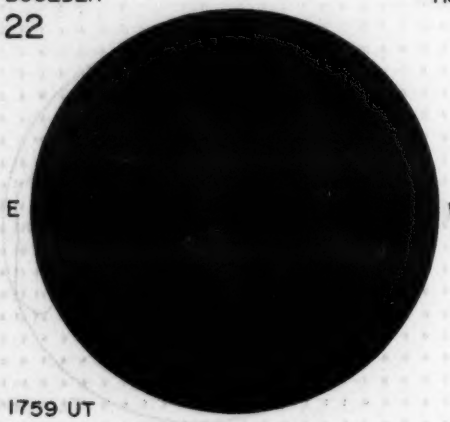
02-03 UT
Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

1755 UT

BOULDER
22

Np

Hα



E

W

Sp

1759 UT

BOULDER

Np

SUNSPOTS

E

W

CORONA
KISLOVODSK

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

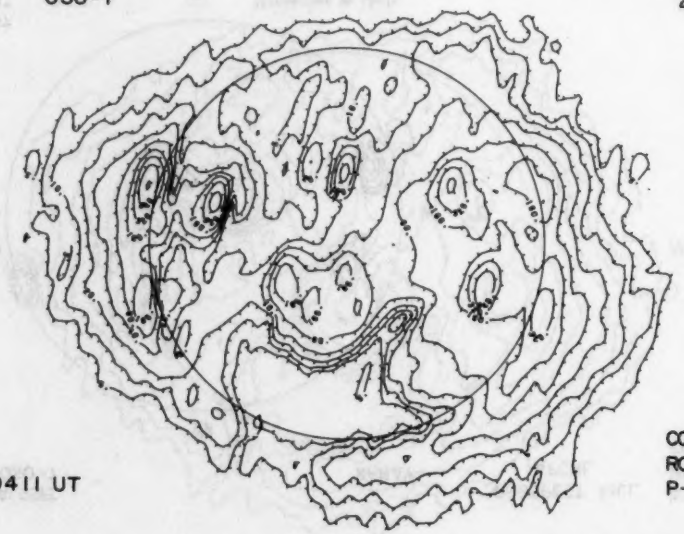
W

1749 UT

Sp

NASA GSFC
OSO-7

Np



E

W

0411 UT

FE XV
284A

COUNT = 76516
ROLL = 98.5°
P-TH = 5.00

Np

NRL
OSO-7

171-630A

E

W

0440 UT
COUNT= 42677

Sp

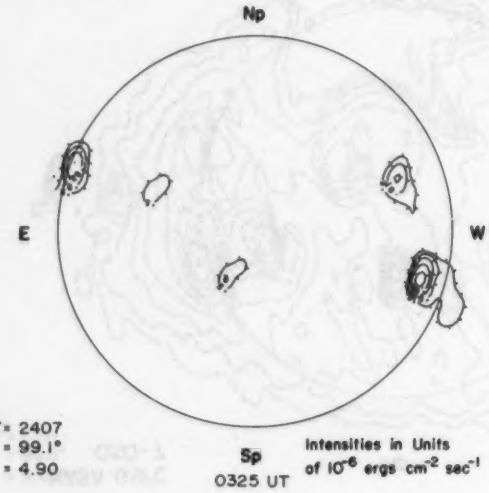
65
Jan 73

JANUARY 23, 1973 (P=-8.32, B_o=-5.34, L_o=271.62)

66 Jan 73

NASA GSFC
OSO-7

X-RAY



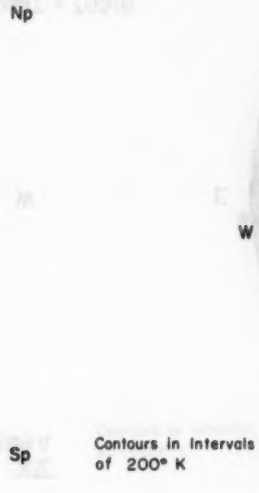
COUNT= 2407
ROLL = 99.1°
P-TH = 4.90

0325 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

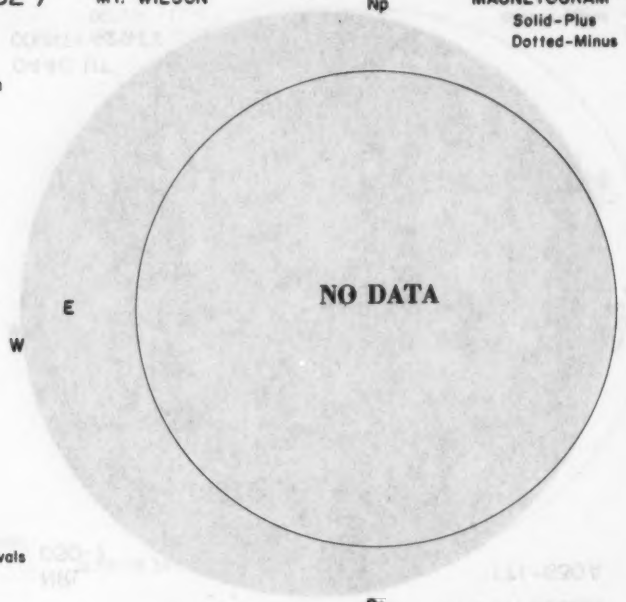
8.6 mm



Contours in Intervals of 200° K

MT. WILSON

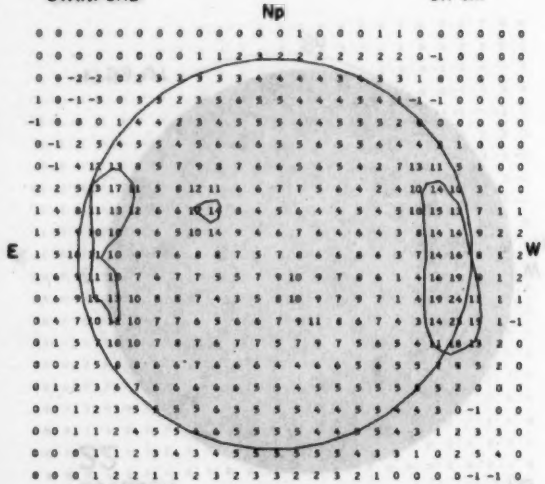
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm



20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT

20-21 UT

Brightness Unit 5,000° K

02-03 UT

Resolution 3 Minutes of Arc

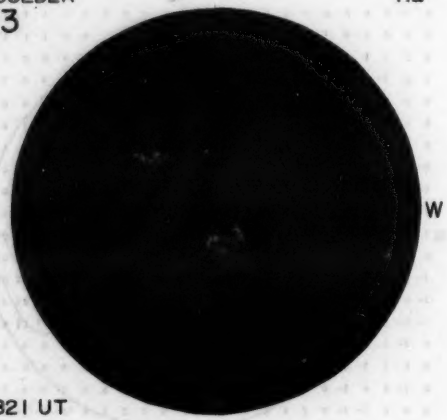
Brightness Unit 1,700° K

BOULDER

23

Np

Hα

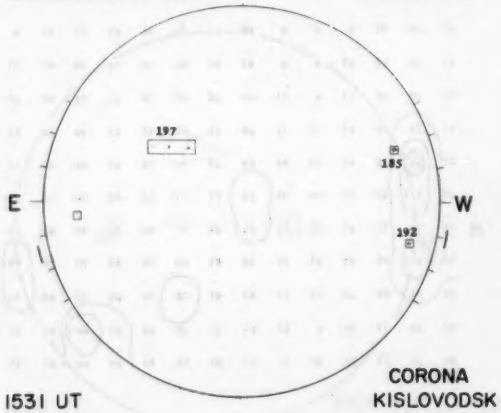


1821 UT

SACRAMENTO PEAK

Np

SUNSPOTS



1531 UT

CORONA

KISLOVODSK

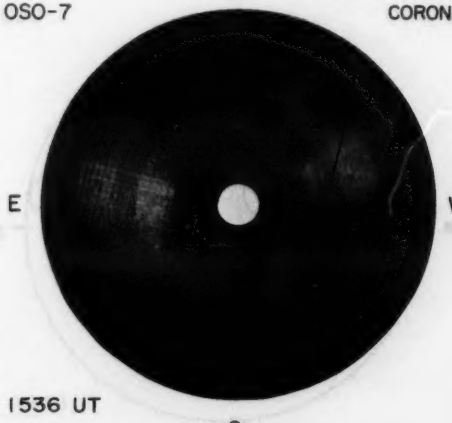
NRL

OSO-7

Np

WHITE - LIGHT

CORONA

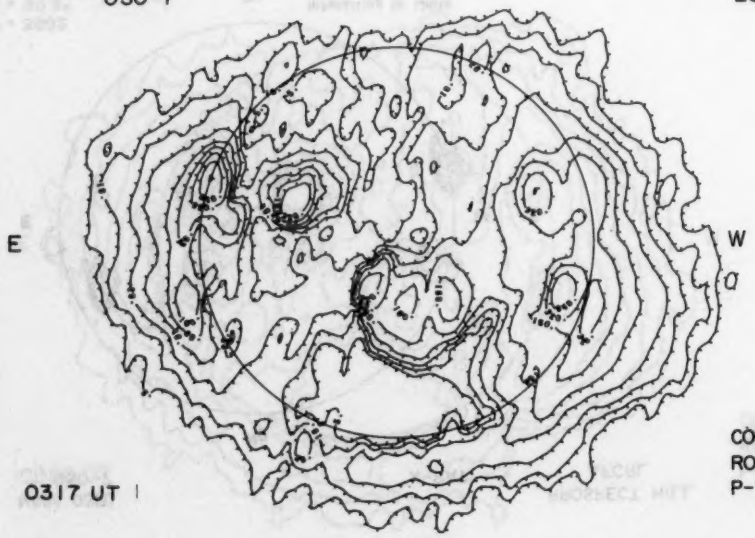


1536 UT

NASA GSFC

OSO-7

Np



0317 UT

FE XV

284A

COUNT = 74580

ROLL = 99.1°

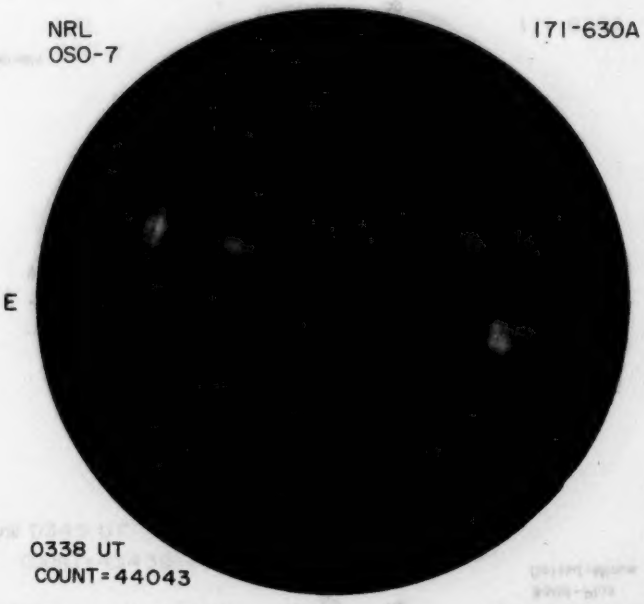
P-TH = 4.90

NRL

OSO-7

Np

171-630A



0338 UT

COUNT = 44043

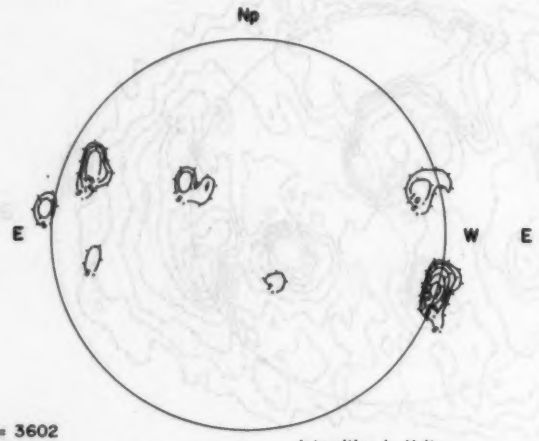
67

Jan 73

JANUARY 24, 1973 (P=-8.76, B_o=-5.42, L_o=258.45)

68 Jan 73

NASA GSFC
OSO-7
X-RAY

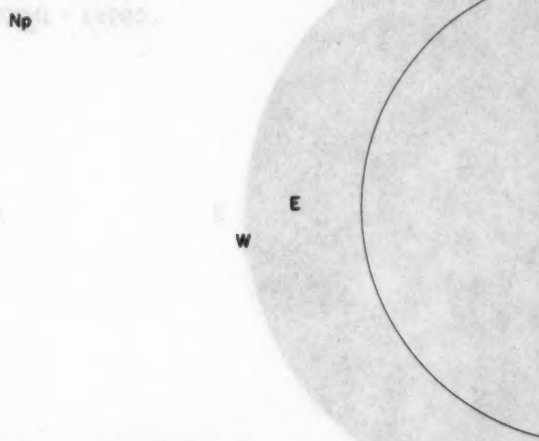


COUNT = 3602
ROLL = 99.3°
P-TH = 4.80

0352 UT

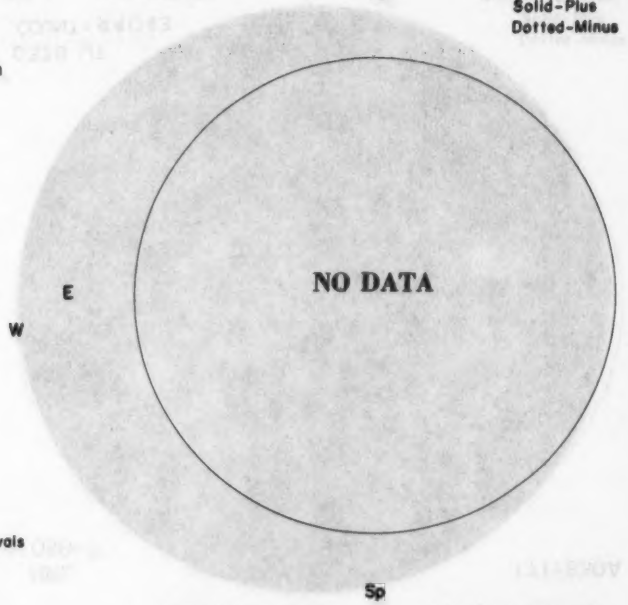
Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL
8.6 mm



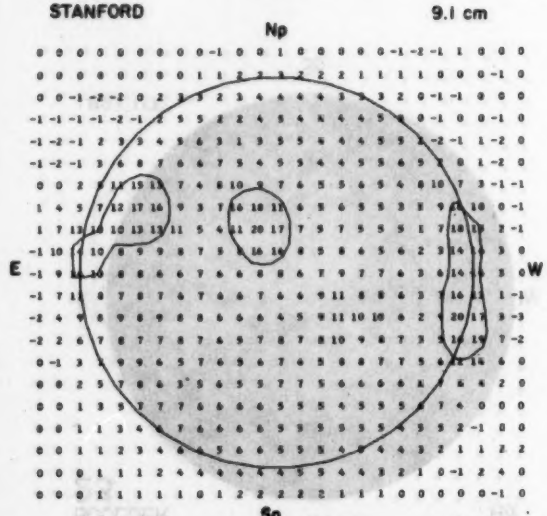
Contours in Intervals of 200° K

MT. WILSON
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

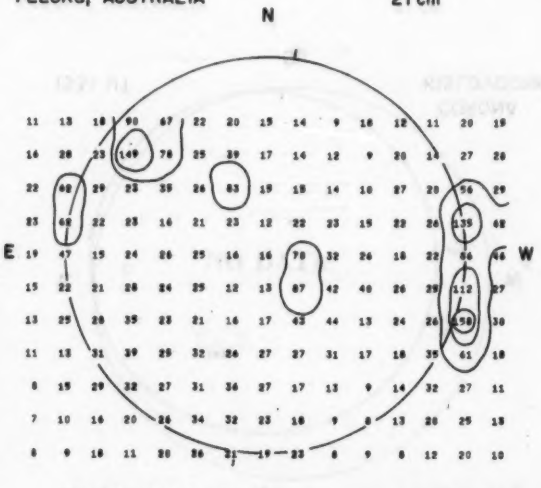
STANFORD
9.1 cm



20-21 UT

Brightness Unit 5,000° K

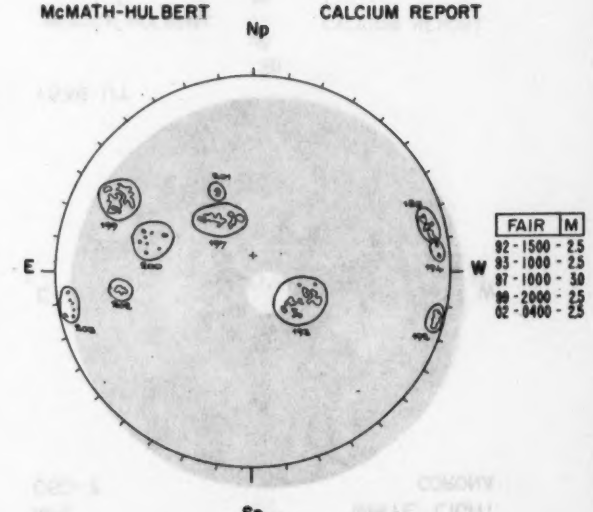
FLEURS, AUSTRALIA
21 cm



02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT
CALCIUM REPORT



1600 UT

BOULDER
Hα

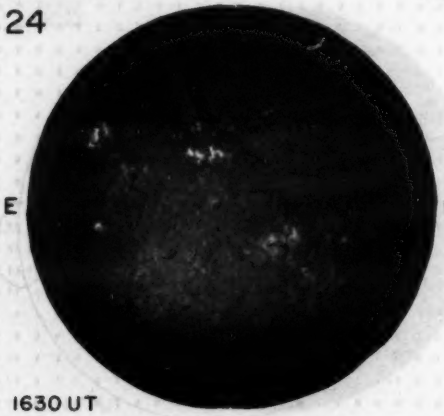
SACRAMENTO PEAK

WHITE LIGHT

BOULDER
24

Np

Hα



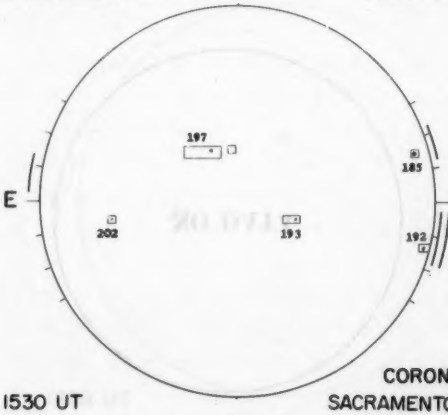
Sp

1630 UT

SACRAMENTO PEAK

Np

SUNSPOTS



1530 UT

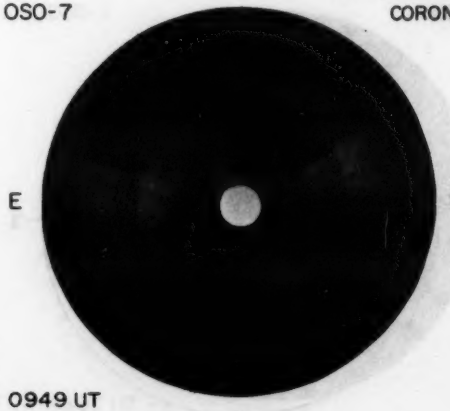
Sp

CORONA
SACRAMENTO PEAK

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

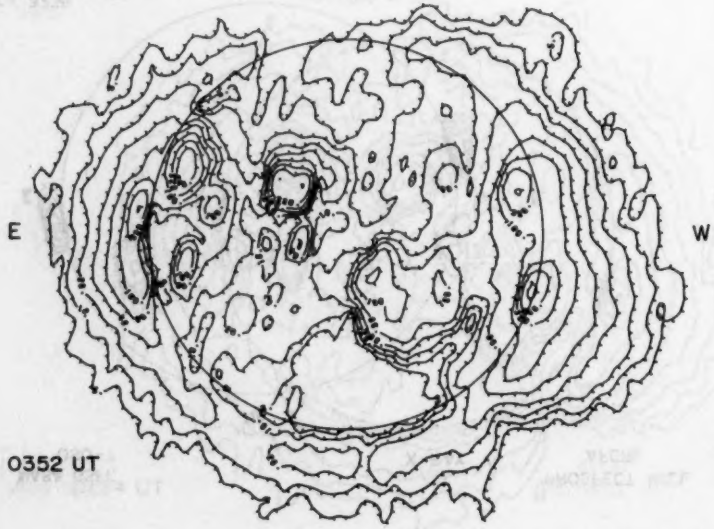


0949 UT

Sp

NASA GSFC
OSO-7

Np



0352 UT

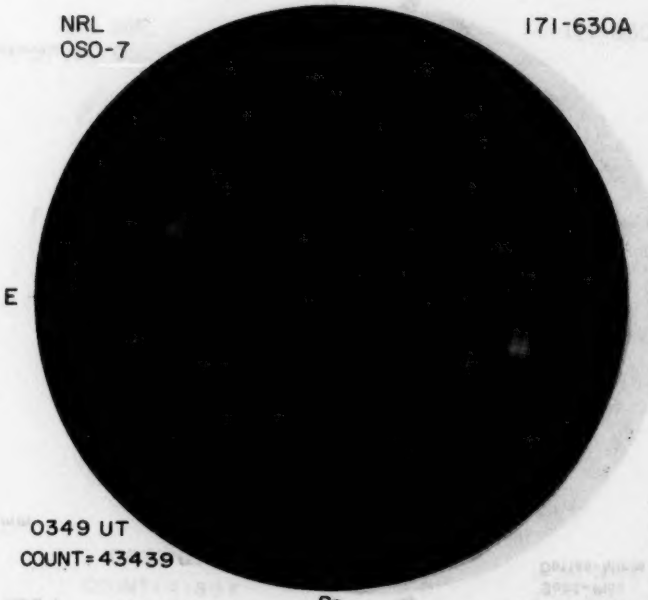
FE XV
284A

COUNT = 71574
ROLL = 99.3°
P-TH = 4.80

NRL
OSO-7

Np

171-630A



0349 UT
COUNT=43439

Sp

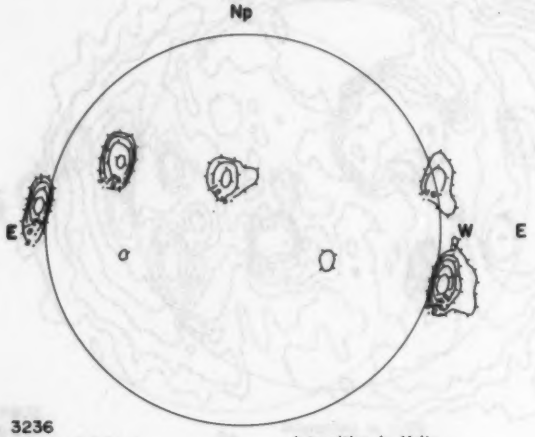
69
Jan 73

JANUARY 25, 1973 (P=-9.20, B_o=-5.51, L_o= 245.29)

70 Jan 73

NASA GSFC
OSO-7

X-RAY



COUNT = 3236
ROLL = 99.0°
P-TH = 4.70

0126 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

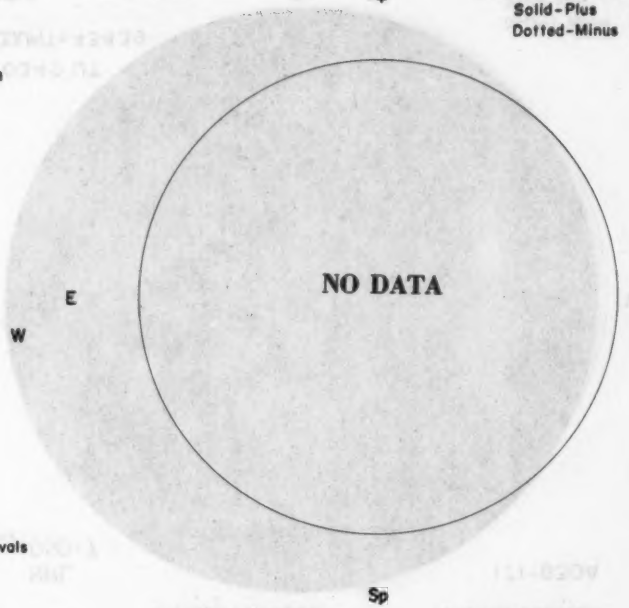
PROSPECT HILL
AFCRL

8.6 mm

Contours in Intervals of 200° K

MT. WILSON

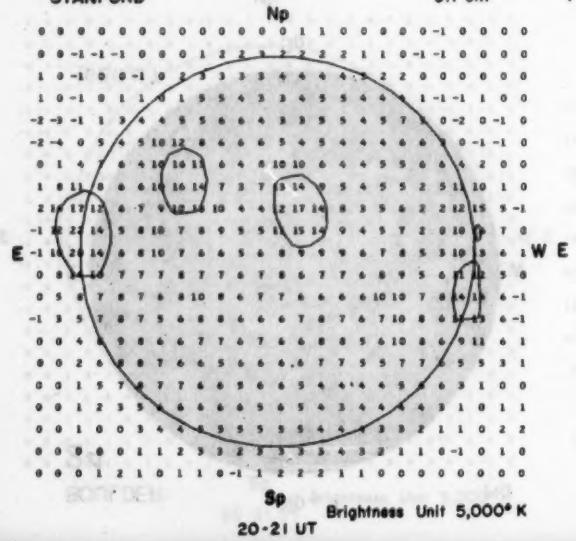
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm



20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT

FAIR	M
93 - 1200	2.5
97 - 1300	3.0
99 - 2200	3.0
02 - 0500	3.0

1440 UT

20-21 UT Brightness Unit 3,000° K

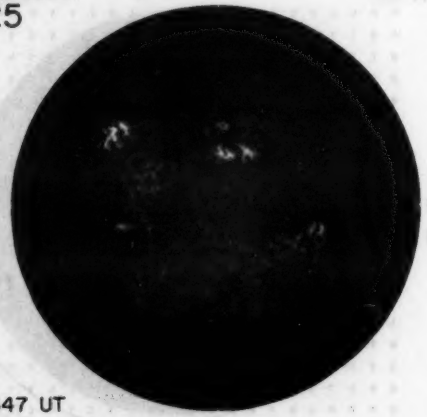
02-03 UT Brightness Unit 1,700° K

1440 UT

BOULDER
25

Np

Hα



E

W

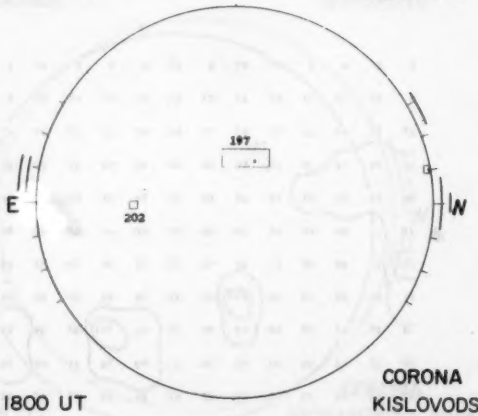
1647 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

1800 UT

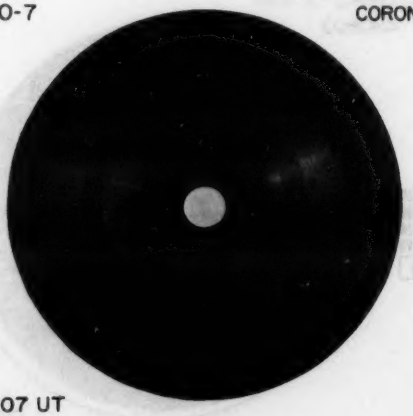
Sp

CORONA
KISLOVODSK

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E

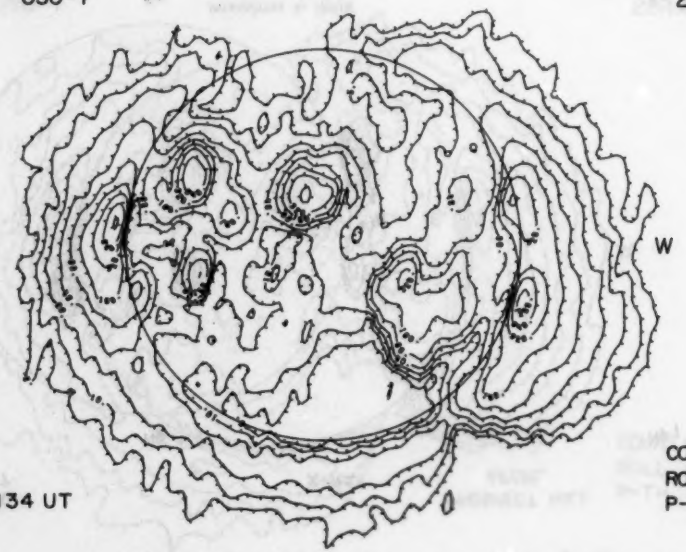
W

1807 UT

Sp

NASA GSFC
OSO-7

Np



E

W

0134 UT

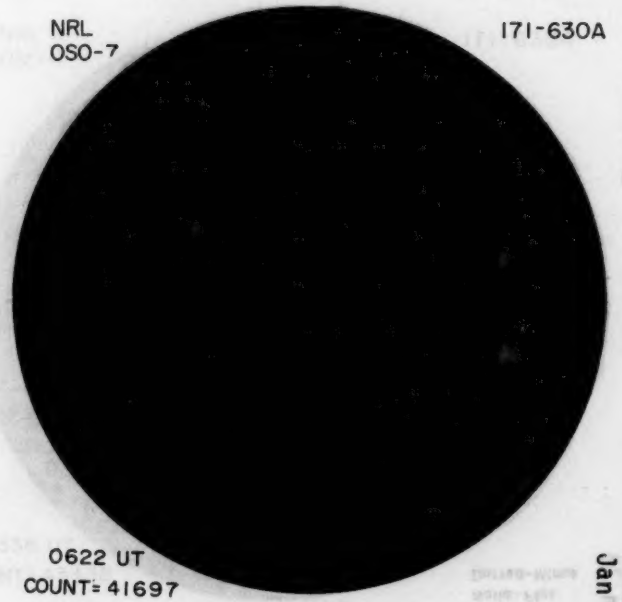
FE XV
284A

COUNT = 80499
ROLL = 99.0°
P-TH = 4.70

Np

NRL
OSO-7

171-630A



0622 UT
COUNT= 41697

Sp

71
Jan 73

JANUARY 26, 1973 (P=-9.64, B_o=-5.59, L_o=232.12)

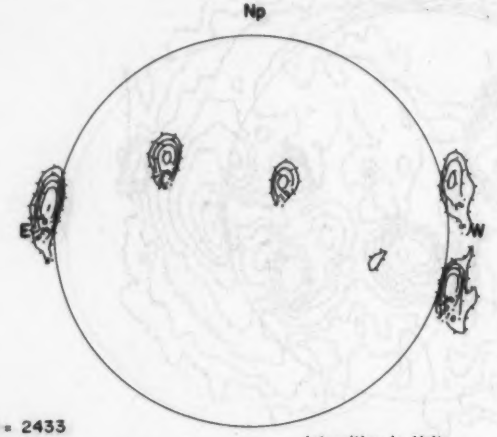
MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus

72
Jan 73

NASA GSFC
OSO-7

X-RAY



COUNT = 2433
ROLL = 98.1°
P-TH = 4.60

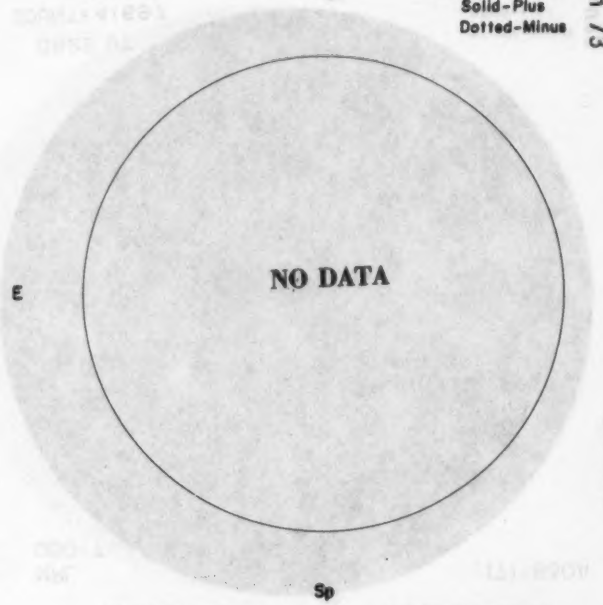
0340 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

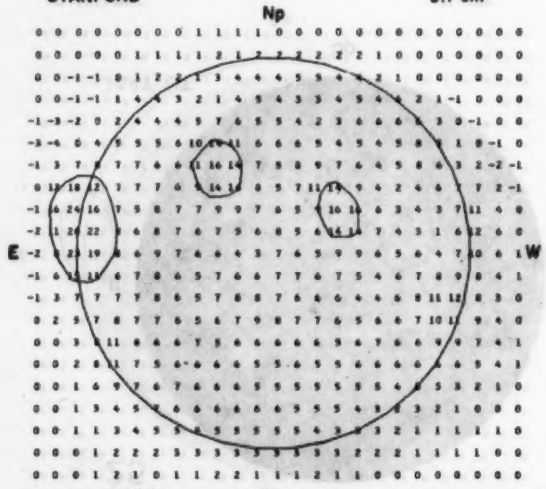
Contours in Intervals of 200° K



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

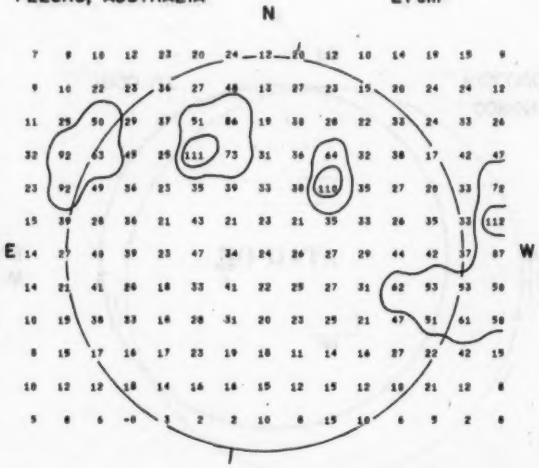


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

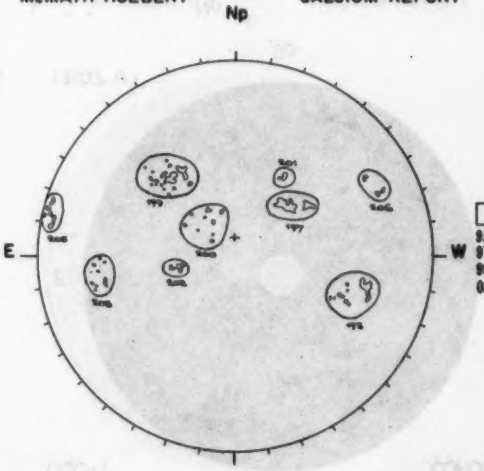


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



FAIR	D
93 - 1600 - 2.5	
97 - 1200 - 3.0	
99 - 2000 - 3.0	
02 - 0400 - 2.5	

1410 UT

BOULDER

20-21 UT

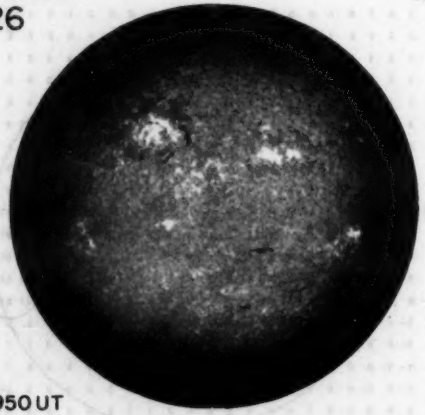
02-03 UT Brightness Unit 1,700° K

1410 UT

BOULDER
26

Np

Hα



E

W

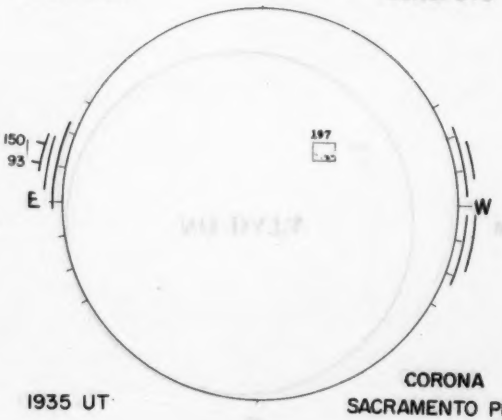
Sp

1950 UT

BOULDER

Np

SUNSPOTS



Sp

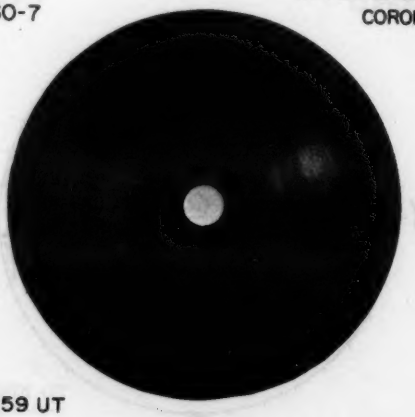
1935 UT

CORONA
SACRAMENTO PEAK

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E

W

Sp

1559 UT

NASA GSFC
OSO-7

Np

FE XV
284A

E

W

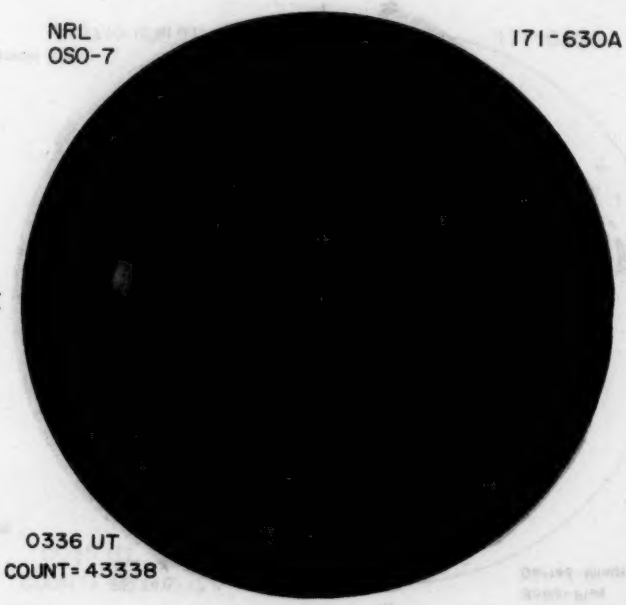
0348 UT

COUNT = 78839
ROLL = 98.1°
P-TH = 4.60

Np

NRL
OSO-7

171-630A



E

W

0336 UT
COUNT = 43338

Sp

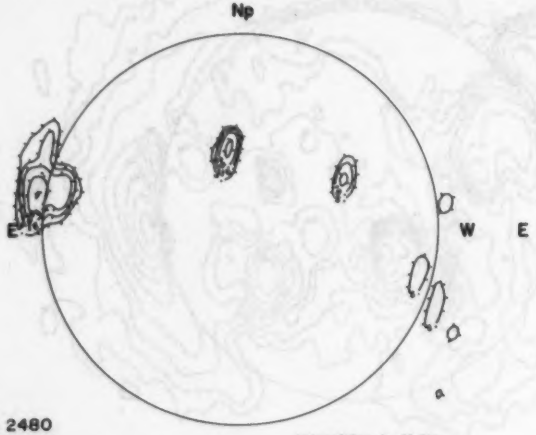
73
Jan 73

JANUARY 27, 1973 (P = -10.07, B_o = -5.67, L_o = 218.95)

74 Jan 73

NASA GSFC
OSO-7

X-RAY



COUNT = 2480
ROLL = 98.0°
P-TH = 4.52

1802 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm

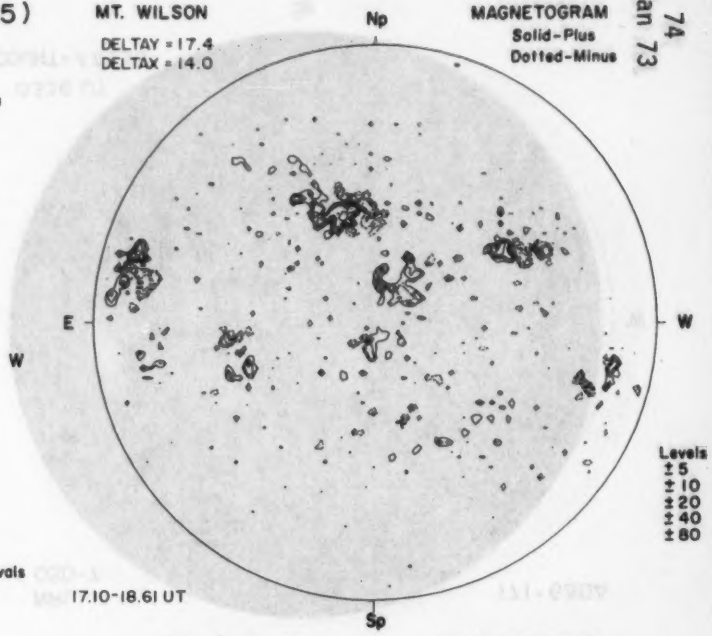
Contours in Intervals of 200° K

17.10-18.61 UT

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

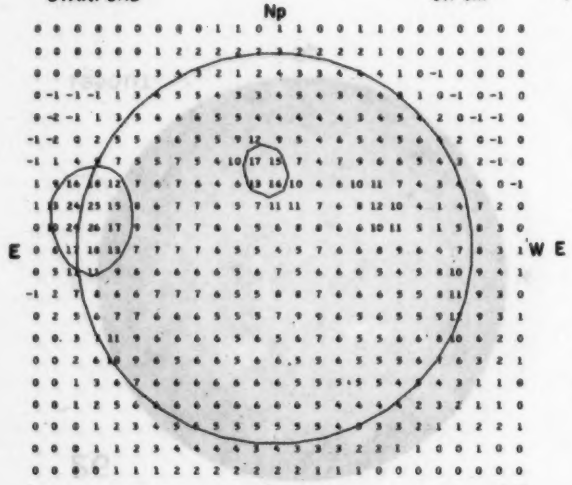
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm



20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

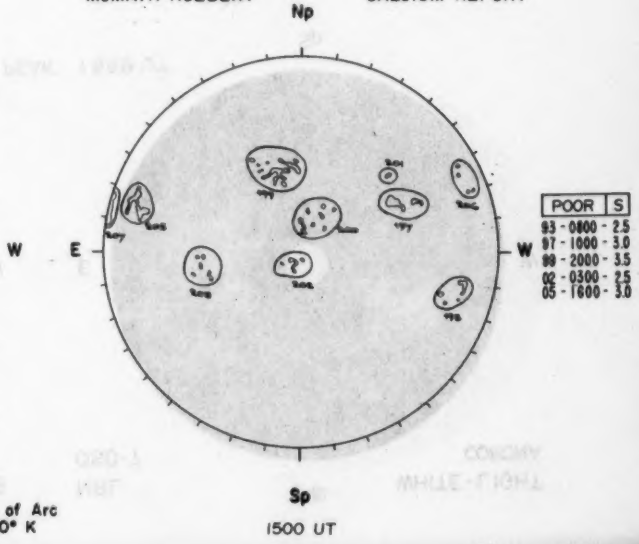
21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



1500 UT

BOULDER

SACRAMENTO PEAK

NRL

WHITE-LIGHT

BOULDER
27

Np

Hα

NO DATA

E

W

Sp

SACRAMENTO PEAK

Np

SUNSPOTS

197

E

W

1720 UT

Sp

CORONA
NO DATA

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

W

0953 UT

Sp

NASA GSFC
OSO-7

Np

E

W

1826 UT

FE XV
284A

COUNT = 76358
ROLL = 98.0°
P-TH = 4.52

Np

NRL
OSO-7

171-630A

E

W

0055 UT
COUNT=42317

Sp

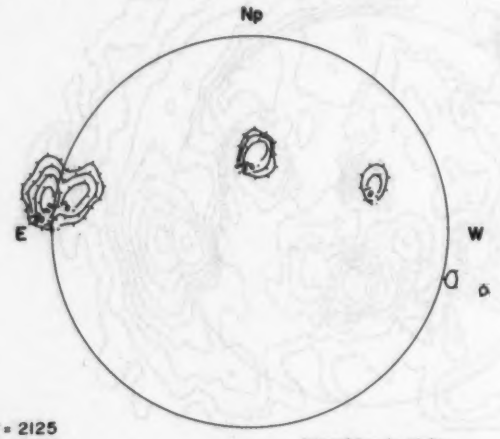
75
Jan 73

JANUARY 28, 1973 (P = -10.50, B_o = -5.75, L_o = 205.79)

76 Jan 73

NASA GSFC
OSO-7

X-RAY



COUNT = 2125
ROLL = 97.9°
P-TH = 4.40

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

0329 UT

PROSPECT HILL
AFCRL

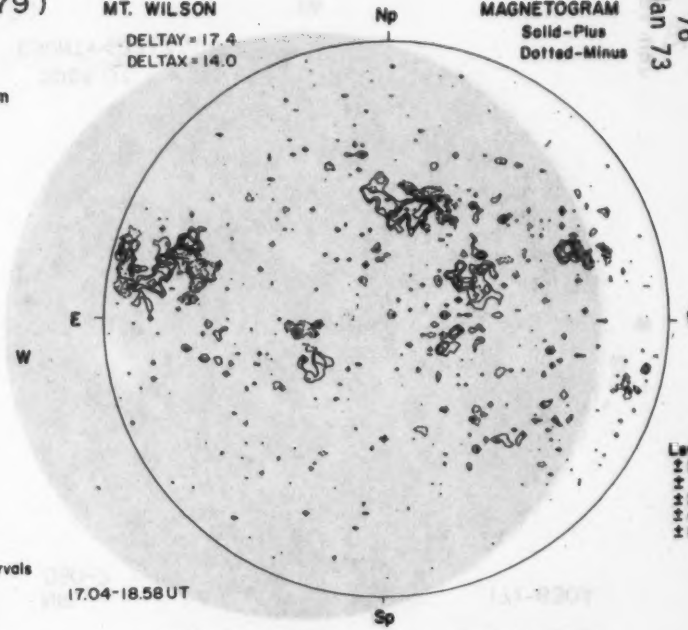
8.6 mm

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

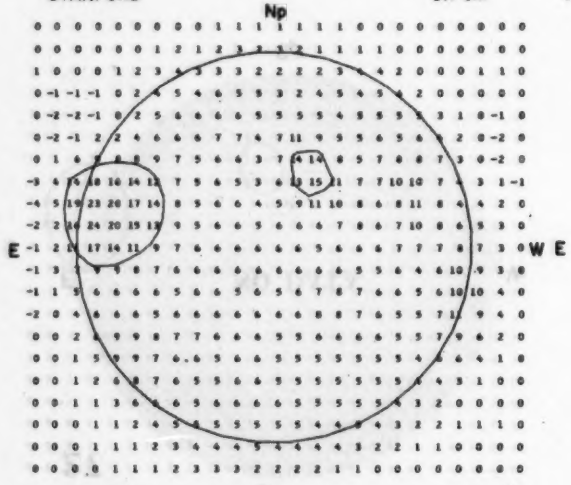


Levels
±5
±10
±20
±40
±80

17.04-18.58 UT

STANFORD

9.1 cm



Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

21 cm

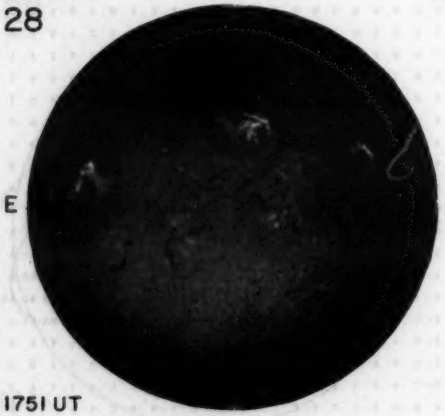
Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT

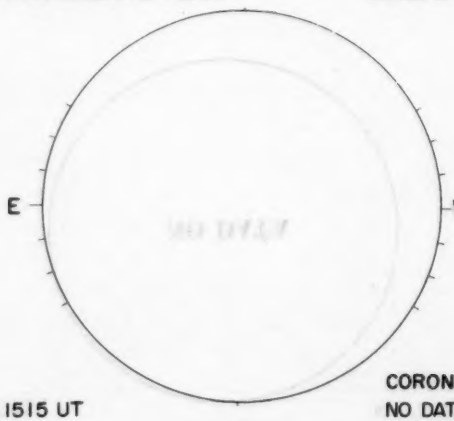
CALCIUM REPORT

BOULDER
28



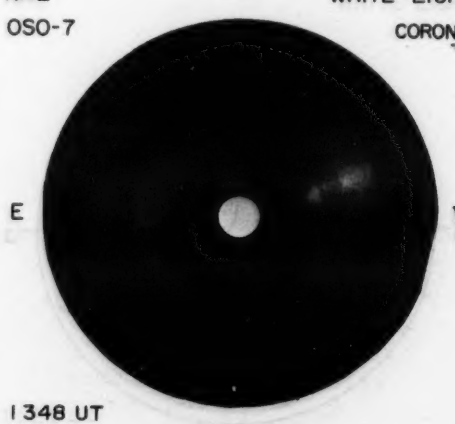
1751 UT

SACRAMENTO PEAK



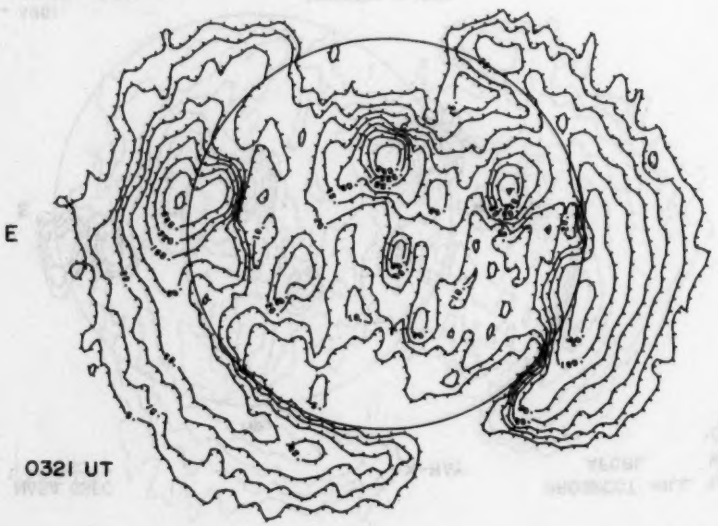
1515 UT

NRL
OSO-7



1348 UT

NASA GSFC
OSO-7

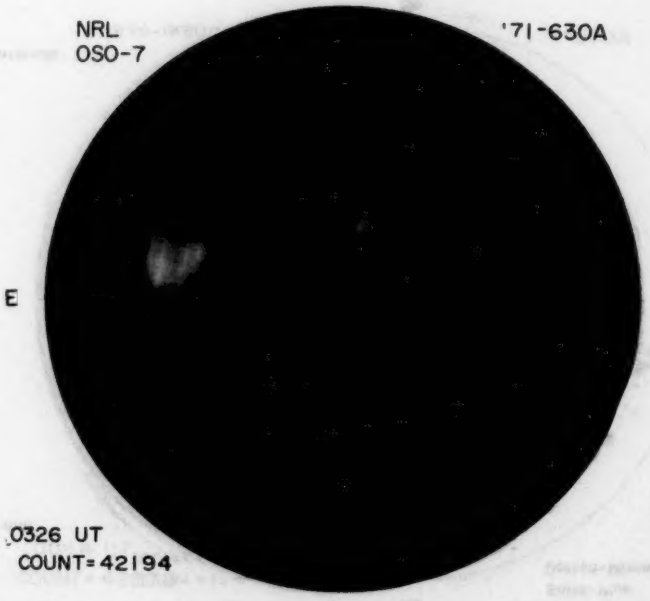


0321 UT

FE XV
284A

COUNT = 68926
ROLL = 97.9°
P-TH = 4.40

NRL
OSO-7



0326 UT
COUNT=42194

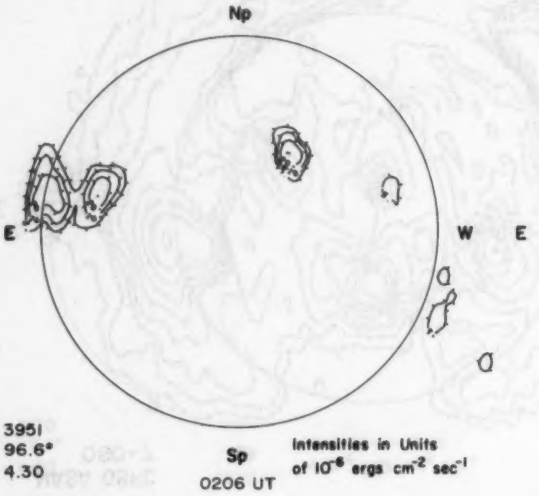
77
Jan 73

JANUARY 29, 1973 (P = -10.93, B_o = -5.83, L_o = 192.62)

78 Jan 73

NASA GSFC
OSO-7

X-RAY



COUNT = 3951
ROLL = 96.6°
P-TH = 4.30

0206 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

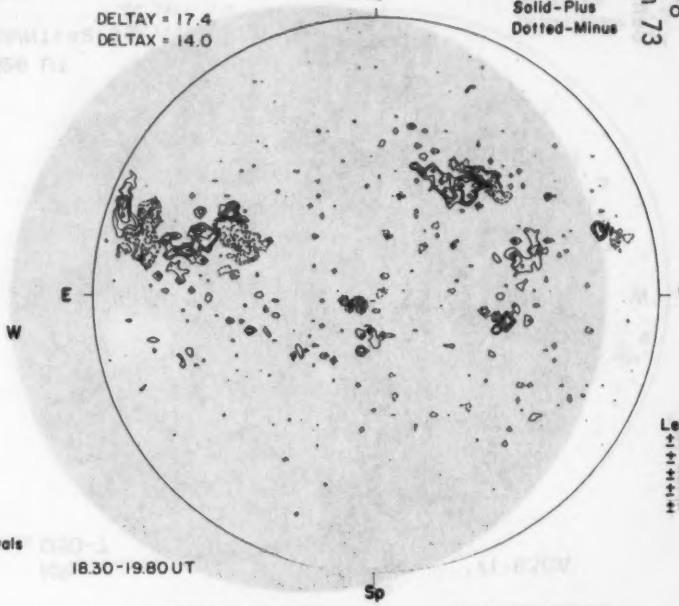
8.6 mm

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

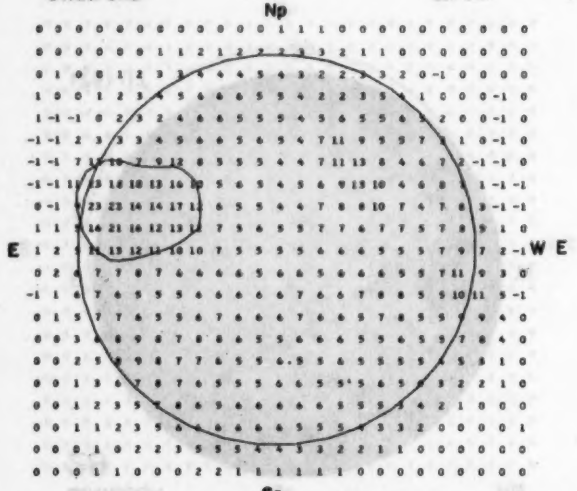


Levels
±5
±10
±20
±40
±80

18.30-19.80 UT

STANFORD

9.1 cm



Brightness Unit 5,000° K

20-21 UT

FLEURS, AUSTRALIA

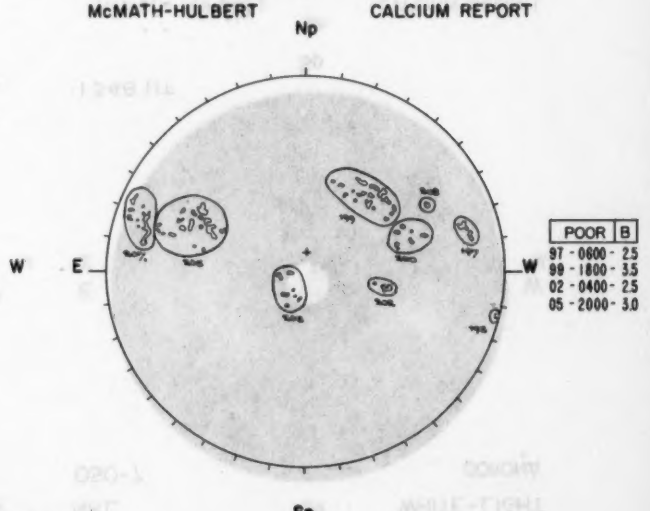
21 cm

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

02-03 UT

McMATH-HULBERT

CALCIUM REPORT



1410 UT

20-21 UT

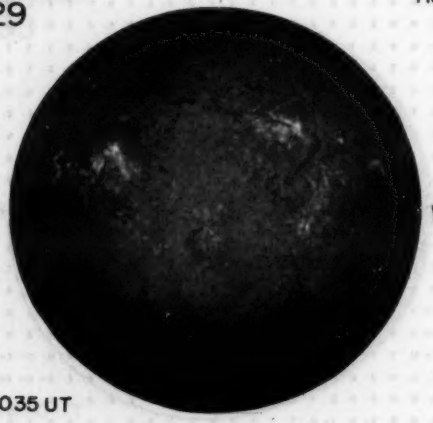
02-03 UT Brightness Unit 1,700° K

1410 UT

BOULDER
29

Np

Hα

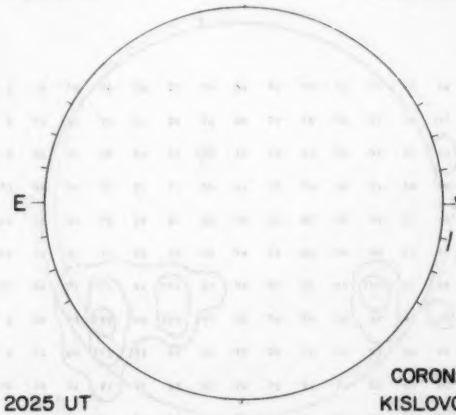


2035 UT

BOULDER

Np

SUNSPOTS



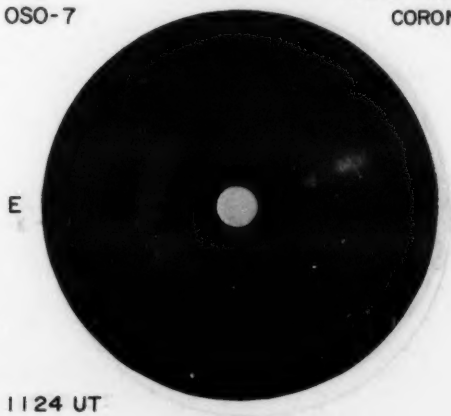
2025 UT

CORONA
KISLOVODSK

NRL
OSO-7

Np

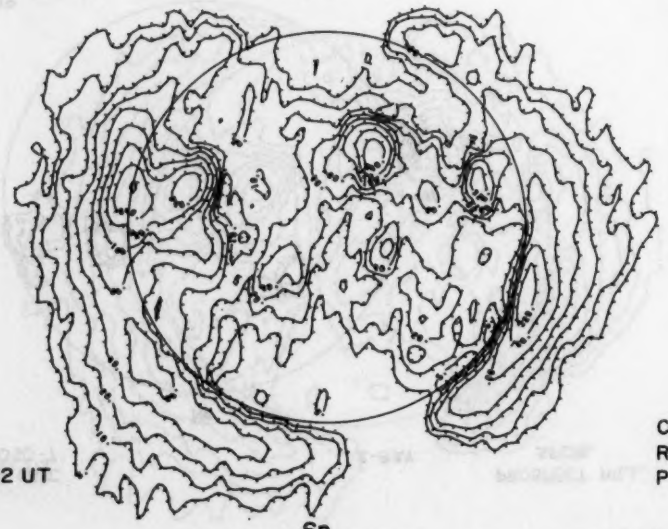
WHITE-LIGHT
CORONA



1124 UT

NASA GSFC
OSO-7

Np



0222 UT

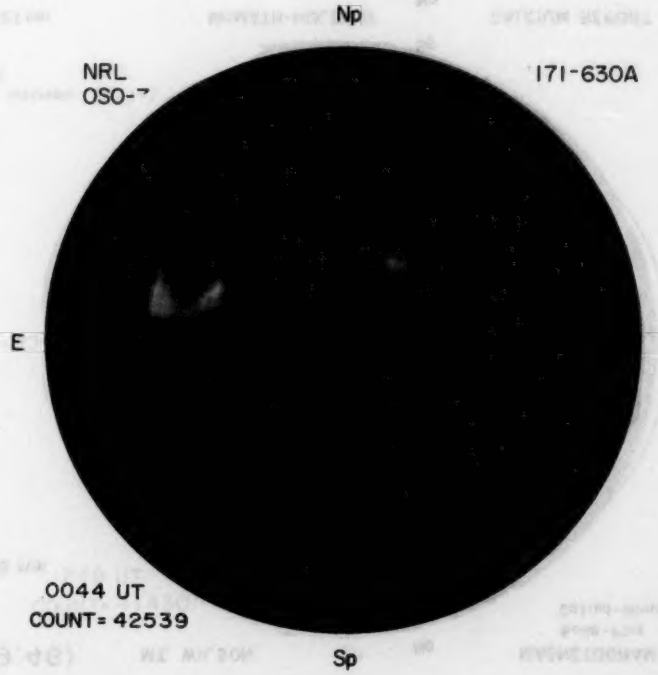
FE XV
284A

COUNT = 88873
ROLL = 96.6°
P-TH = 4.30

NRL
OSO-7

Np

171-630A



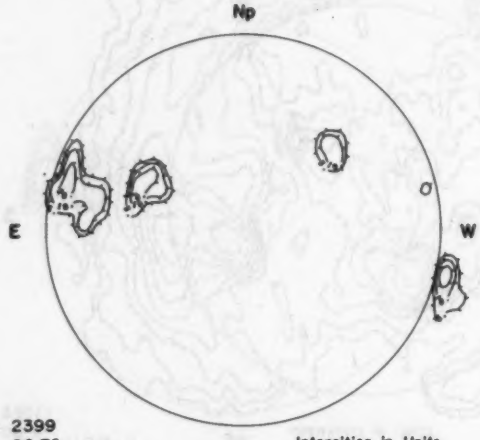
0044 UT
COUNT= 42539

79
Jan 73

JANUARY 30, 1973 (P=-11.35, B_o=-5.90, L_o=179.46)

NASA GSFC
OSO-7

X-RAY



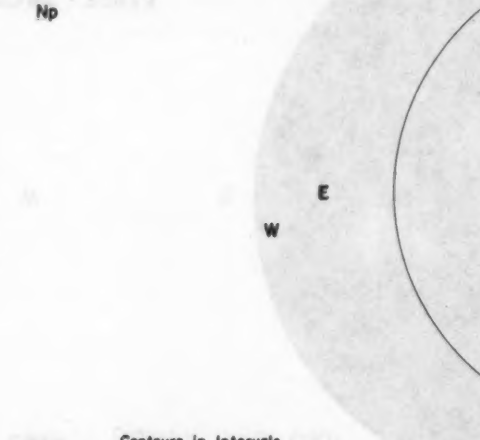
COUNT = 2399
ROLL = 96.7°
P-TH = 4.20

0252 UT

Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

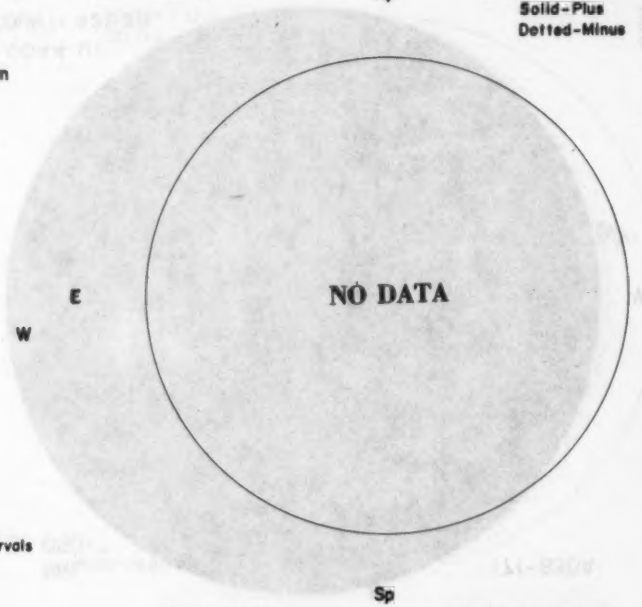
8.6 mm



Contours in Intervals of 200° K

MT. WILSON

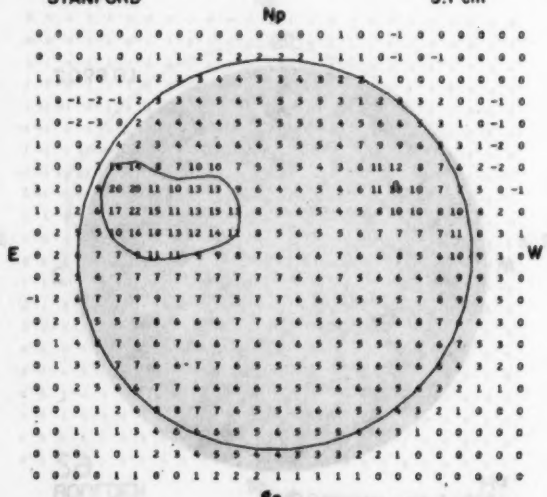
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

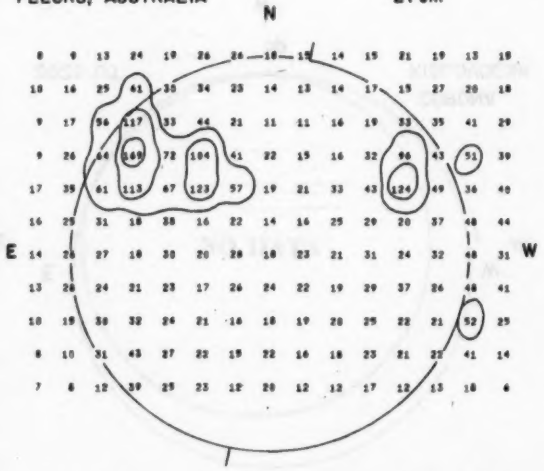


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

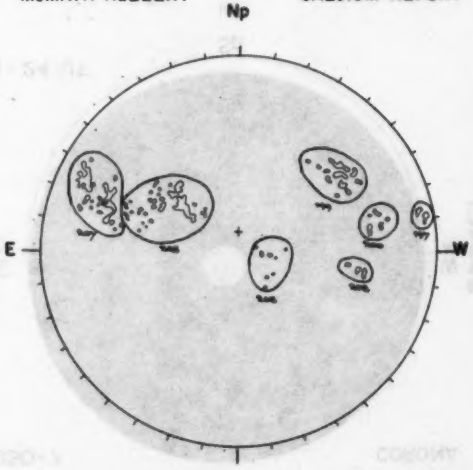


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



1530 UT

FAIR	D
97-0600 - 2.5	
80-1700 - 2.5	
05-2400 - 3.0	
07-2200 - 2.5	

20-21 UT

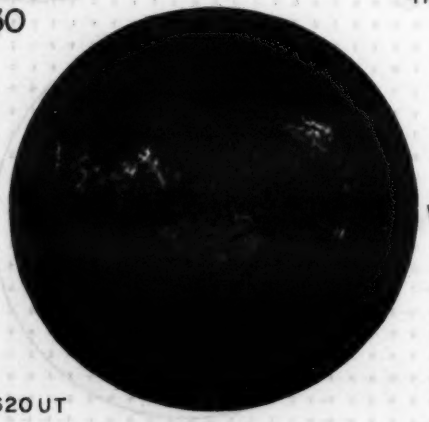
02-03 UT Brightness Unit 1,700° K

1530 UT

BOULDER
30

Np

Hα



E

W

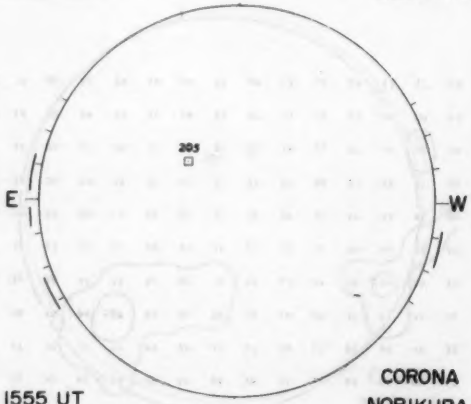
1620 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

1555 UT

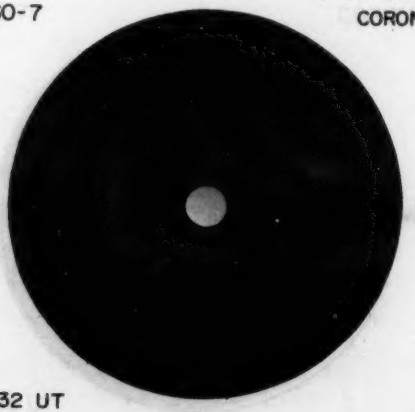
Sp

CORONA
NORIKURA

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E

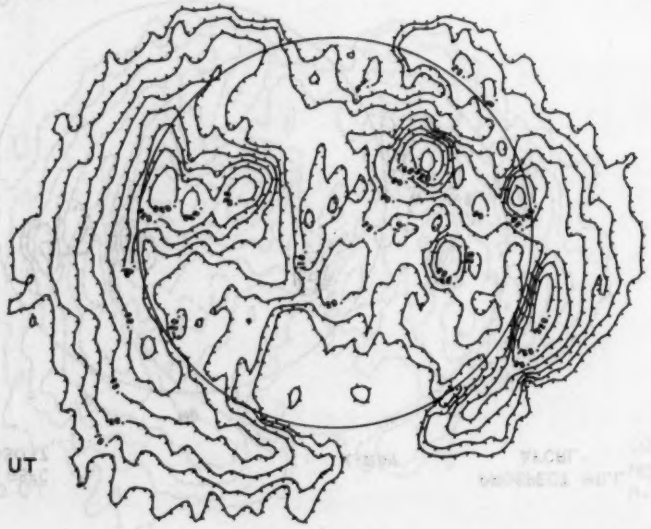
W

1632 UT

Sp

NASA GSFC
OSO-7

Np



E

W

0300 UT

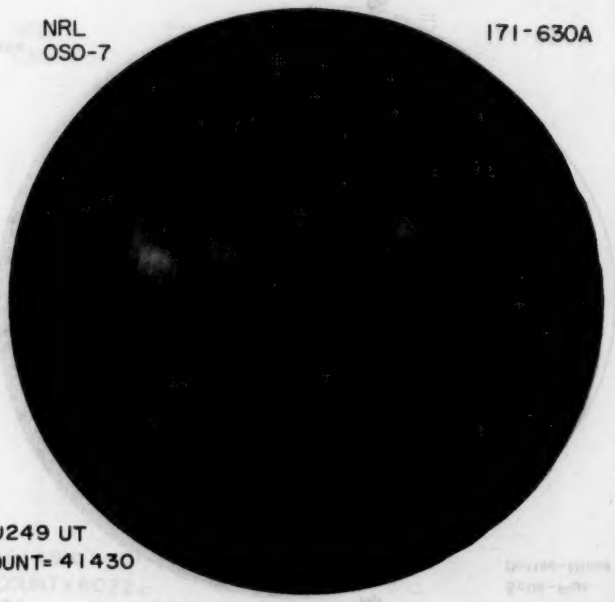
FE XV
284A

64987
96.7°
4.20

Np

NRL
OSO-7

171-630A



E

W

0249 UT
COUNT= 41430

Sp

81
Jan 73

JANUARY 31, 1973 (P=-11.76, B_o=-5.98, L_o=166.29)

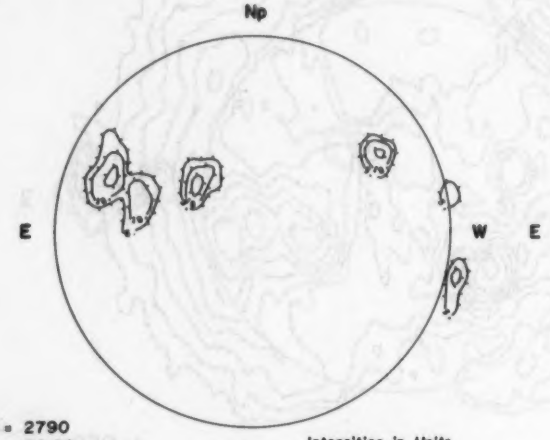
MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus

82
Jan 73

NASA GSFC
OSO-7

X-RAY



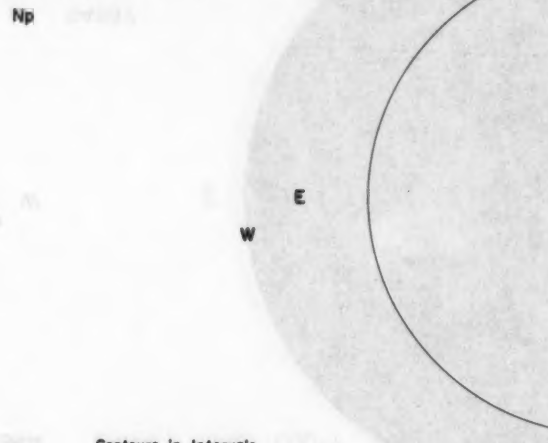
COUNT = 2790
ROLL = 96.9°
P-TH = 4.10

0152 UT

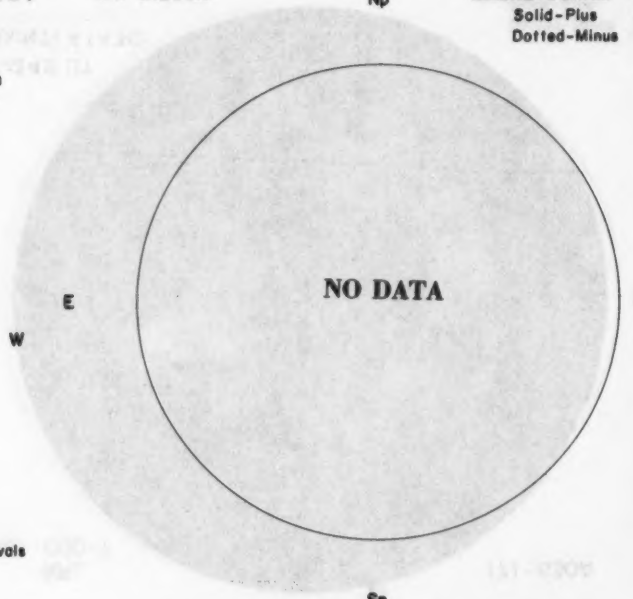
Intensities in Units of 10^{-6} ergs cm^{-2} sec^{-1}

PROSPECT HILL
AFCRL

8.6 mm



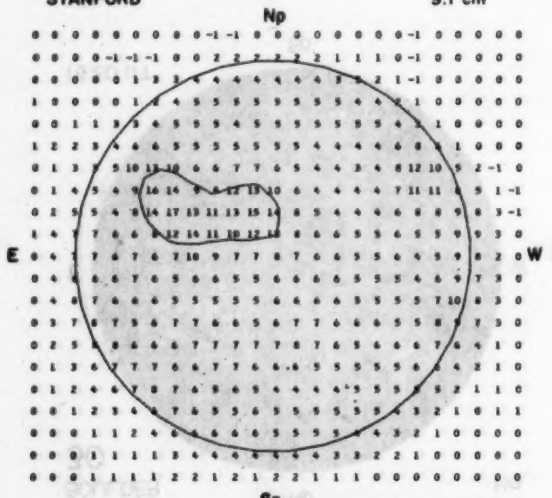
Contours in Intervals of 200° K



Levels
±5
±10
±20
±40
±80

STANFORD

9.1 cm

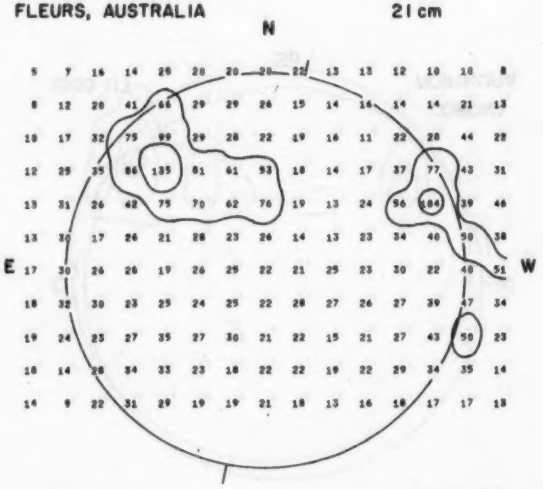


20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

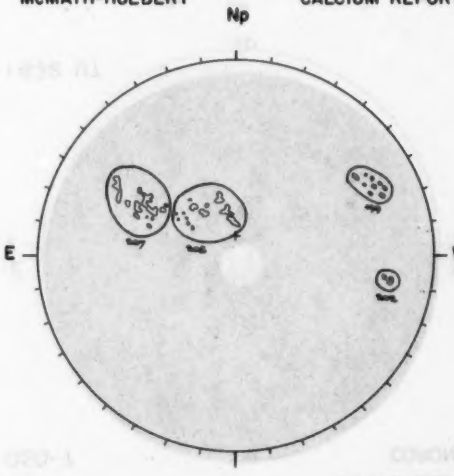


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



V BAD	M
99-1500	2.5
02-0400	2.5
05-2400	3.5
07-2400	3.0

1630 UT

20-21 UT

02-03 UT Brightness Unit 1,700° K

1630 UT

BOULDER

31

Np

Hα

E

NO DATA

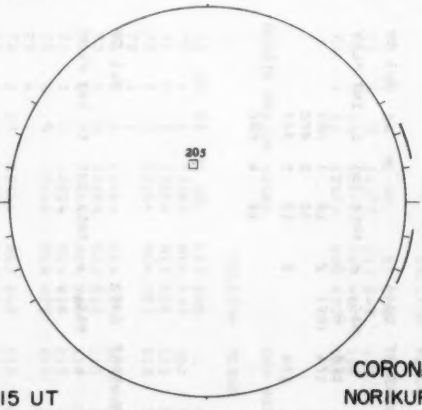
W

Sp

CANARY ISLAND

Np

SUNSPOTS



E

W

0915 UT

Sp

CORONA

NORIKURA

NRL

OSO-7

Np

WHITE-LIGHT

CORONA

E

W

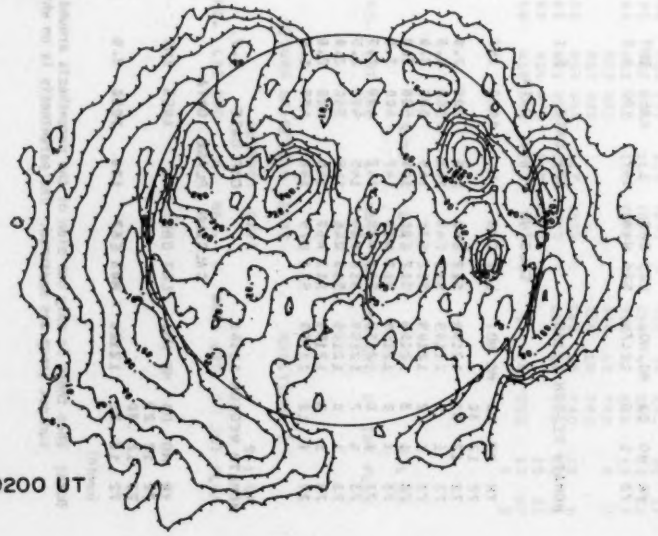
1232 UT

Sp

NASA GSFC

OSO-7

Np



E

W

0200 UT

FE XV

284A

COUNT = 64984

ROLL = 96.9°

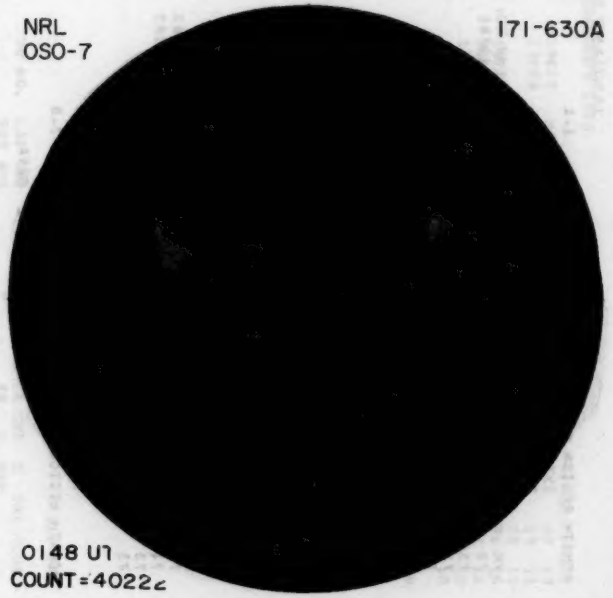
P-TH = 4.10

Np

NRL

OSO-7

171-630A



E

W

0148 UT

COUNT=40222

Sp

83

Jan 73

REGIONS OF SOLAR ACTIVITY

JANUARY 1973

MCMATH REGION 12165 CMP DATE 1.1

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA						9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C INT FLUX
73	1	2	12165	N19 W22	198	300	3.0	19081	N19 W19	197	(BF)	2			
73	1	3	12165	N19 W33	199	400	2.0		N19 W32				30	2	BXO
73	1	4							N20 W48				0	1	AXX
73	1	5	12165	N19 W60	199	400	1.5								
73	1	6	12165	N18 W72	199	200	1.5								

MCMATH REGION 12158 CMP DATE 3.0

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA						9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C INT FLUX
72	12	31	12158	S10 E33	172	300	2.5								
73	1	1	12158	S11 E17	173	200	1.5								
73	1	2	12158	S11 E03	173	200	1.0								
73	1	3	12158	S11 W07	173	200	1.0								
73	1	5	12158	S11 W37	176	300	1.0								
73	1	6	12158	S12 W48	175	500	2.5	19083	S11 W49	174	(BP)	3			
73	1	7	12158	S12 W61	172	600	2.5	19083	S11 W66	176	(AP)	2	40	2	CSO
73	1	8	12158	S12 W75	174	700	2.0								
73	1	9	12158	S12 W86	172	600	2.0		S12 W86				40	3	AXX

MCMATH REGION 12166 CMP DATE 3.0

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA						9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C INT FLUX
73	1	1	12166	S16 E18	172	100	2.0	19079	S17 E16	173	B	0			
73	1	2	12166	S16 E03	173	400	3.0	19079	S17 E04	174	(BF)	2	10	1	HRX
73	1	3	12166	S16 W07	173	300	3.0		S17 W05				20	2	BXO
73	1	4						19079	S17 W22	174		0	10	1	AXX
73	1	5	12166	S17 W37	176	300	2.0								
73	1	6	12166	S17 W48	175	400	2.0		S18 W45				10	4	CRO
73	1	7	12166	S17 W62	173	400	1.0								
73	1	8	12166	S17 W78	177	300	1.0								

MCMATH REGION 12174 CMP DATE 5.0

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA						9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C INT FLUX
73	1	8	12174	S26 W48	147	100	1.0								

MCMATH REGION 12159 CMP DATE 5.1

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA						9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C INT FLUX
72	12	30						19077	S13 E70	149	AP	0	20	2	BXO
72	12	31	12159	S12 E60	145	800	2.5	19077	S14 E57	144	BP	0	10	2	BXO
73	1	1	12159	S10 E44	146	500	2.5		S11 E46				0	2	AXX
73	1	2	12159	S12 E31	145	600	3.0	19077	S13 E30	148	(AP)	2	0	1	AXX
73	1	3	12159	S12 E21	145	500	3.0								
73	1	5	12159	S12 W08	147	400	3.0		S11 W02				0	1	AXX
73	1	6	12159	S13 W20	147	400	2.5								
73	1	7	12159	S13 W34	145	400	2.5								
73	1	8	12159	S13 W46	145	500	2.0								
73	1	9	12159	S13 W60	146	400	2.0								
73	1	10	12159	S13 W75	148	400	1.5								

MCMATH REGION 12160 CMP DATE 5.7

				CALCIUM	PLAGE	DATA		SUNSPOT	DATA						9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C INT FLUX
72	12	29													4 2
72	12	30						19078	N07 E78	141	(BP	4	170	10	DAI 21 12
72	12	31	12160	N08 E67	138	3000	3.5	19078	N06 E63	138	(BP)	4	600	13	EKI 25 14

(cont'd)

Note: When there is only one side of the parenthesis around the magnetic type of sunspot it means that only half of the sunspot group was measured. The parenthesis is on whichever half was measured, either the leader or the follower.

REGIONS OF SOLAR ACTIVITY

JANUARY 1973

(cont'd)

73	1	1	12160	N10 E53	137	3000	3.5	19078	N05 E52	137	BP	0	380	22	EKI	22	13
73	1	2	12160	N08 E40	136	3500	3.5	19078	N05 E40	138	(BP)	6	320	21	EKI	19	11
73	1	3	12160	N08 E28	138	3300	3.5		N08 E31				300	17	FKO	22	13
73	1	4						19078	N06 E14	138	BP	0	260	16	EKO	26	15
73	1	5	12160	N07 E01	138	3500	3.5	19078	N08 W02	139	(BP)	5	260	27	CKI	17	10
73	1	6	12160	N06 W11	138	3500	3.0	19078	N08 W15	140	(BP)	6	270	19	CHI	18	10
73	1	7	12160	N07 W25	136	3300	3.0	19078	N08 W31	141	(BP)	5	260	7	HKX	17	10
73	1								N06 W21				10	5	CRO		
73	1	8	12160	N07 W38	137	3200	3.5	19078	N09 W47	145	(AP)	5	260	4	HKX	16	9
73	1								N06 W36				0	1	AXX		
73	1	9	12160	N07 W51	137	3200	3.5									19	11
73	1	10	12160	N07 W64	137	3200	3.5	19078	N09 W75	148	(AP)	4	90	5	CKI	13	7
73	1	11	12160	N07 W78	138	2600	3.0	19078	N09 W89	148	AP	0	120	1	HAX	16	9
73	1	12	12160	N04 W88	135	200	1.5										

MCMATH REGION 12163 CMP DATE 5.7

CALCIUM PLAGE DATA — SUNSPOT DATA — 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
73	1	1	12163	N36 E50	140	100	1.5										
73	1	2	12163	N35 E36	138	100	1.0										

MCMATH REGION 12177 CMP DATE 6.1

CALCIUM PLAGE DATA — SUNSPOT DATA — 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
73	1	9	12177	S13 W47	133	200	2.0		S09 W45				30	4	BXO		
73	1	10	12177	S13 W62	135	300	1.5										
73	1	11	12177	S13 W75	135	300	1.0										

MCMATH REGION 12164 CMP DATE 7.5 — RETURN OF REGION 12136 — ROTATION 2

CALCIUM PLAGE DATA — SUNSPOT DATA — 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
73	1	1	12164	N16 E83	107	1500	3.0	19080	N12 E76	113	A	0	20	1	HSX		
73	1	2	12164	N15 E66	110	2500	3.5	19080	N12 E64	114	(B)	3	90	5	DAO	8	5
73	1	3	12164	N14 E53	113	2400	3.0		N14 E55				200	15	EKI	23	13
73	1	4						19080	N12 E38	114	BF	0	280	17	DAI	3	2
73	1	5	12164	N14 E24	115	2800	3.5	19080	N13 E24	113	(BF)	4	260	40	DKI	36	20
73	1	6	12164	N13 E12	115	2500	4.0	19080	N13 E11	114	(BY)	5	320	34	EAI	30	17
73	1	7	12164	N14 W04	115	2700	3.5	19080	N13 W04	114	(BF)	4	350	44	EAI	23	13
73	1	8	12164	N14 W16	115	2700	3.5	19080	N13 W16	114	(BF)	4	300	32	EAO	12	7
73	1	9	12164	N13 W29	115	3000	3.5		N13 W23				370	18	FKO	9	5
73	1								N13 W23				370	18	FKO		
73	1	10	12164	N13 W42	115	3200	3.5	19080	N13 W44	117	(BF)	4	160	10	FAO	10	6
73	1	11	12164	N13 W54	114	3300	3.5	19080	N13 W59	118	(BF)	4	160	10	EKO	11	6
73	1	12	12164	N12 W68	115	3800	3.5	19080	N14 W72	117	(BF)	4				20	11
73	1	13	12164	N15 W80	113	2000	3.5	19080	N13 W88	117	AF	0	90	4	ESO	13	17
73	1	14														5	3

MCMATH REGION 12182 CMP DATE 7.7

CALCIUM PLAGE DATA — SUNSPOT DATA — 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
73	1	12	12182	N34 W64	111	100	1.0										

MCMATH REGION 12168 CMP DATE 8.7 — RETURN OF REGION 12137 — ROTATION 2

CALCIUM PLAGE DATA — SUNSPOT DATA — 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	NW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
73	1	5	12168	S18 E48	99	400	1.0										
73	1	6	12168	S18 E28	99	400	1.0										
73	1	7	12168	S17 E13	98	300	1.0										
73	1	8	12168	S17 E00	99	400	1.0										
73	1	9	12168	S17 W12	98	500	1.0										
73	1	10	12168	S18 W25	98	400	1.0										
73	1	11	12168	S19 W39	99	200	1.0										
73	1	12	12168	S17 W53	100	300	1.0										

REGIONS OF SOLAR ACTIVITY

JANUARY 1973

MCMATH REGION 12169 CMP DATE 10.1

CALCIUM PLAGE DATA — SUNSPOT DATA — 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
73	1	5	12169	S01 E63	76	800	3.5										
73	1	6	12169	S03 E50	77	700	3.0										
73	1	7	12169	S02 E35	76	500	3.0										
73	1	8	12169	S02 E21	78	500	3.0										
73	1	9	12169	S02 E06	80	500	2.0										
73	1	10	12169	S03 W07	80	500	1.5										
73	1	11	12169	S03 W20	80	400	2.0										
73	1	12	12169	S03 W33	80	400	2.0										
73	1	13	12169	S05 W47	80	300	1.0										

MCMATH REGION 12187 CMP DATE 10.5

CALCIUM PLAGE DATA — SUNSPOT DATA — 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
73	1	13	12187	N10 W41	74	100	1.5										

MCMATH REGION 12171 CMP DATE 11.8 — RETURN OF REGION 12138 — ROTATION 2

CALCIUM PLAGE DATA — SUNSPOT DATA — 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
73	1	5	12171	S15 E80	59	1500	1.5	19082	S18 E76	61	(AP)	2	40	1	HSX	5	3
73	1	6	12171	S15 E65	62	1600	1.5	19082	S19 E63	62	(AP)	3	50	1	HSX	6	4
73	1	7	12171	S15 E54	57	1800	2.0	19082	S19 E50	60	(AP)	3	50	2	HAX	6	3
73	1	8	12171	S15 E40	59	2000	2.0	19082	S19 E37	61	(AP)	3	50	2	HAX	4	2
73	1	9	12171	S16 E28	58	2100	2.0		S18 E29				50	2	HSX	3	2
73	1								S18 E29				50	2	HSX		
73	1	10	12171	S16 E15	58	2000	2.0	19082	S19 E13	60	(AP)	2	0	4	BXO	2	1
73	1	11	12171	S17 E02	58	2000	2.0	19082	S18 W01	60	(AP)	2	80	5	CRO	3	2
73	1	12	12171	S17 W10	57	2200	3.0	19082	S19 W16	61	(AP)	2				3	2
73	1	13	12171	S17 W22	55	2200	2.5	19082	S19 W31	60		0				3	2
73	1	14														3	2
73	1	15	12171	S17 W50	54	2100	2.0	19082	S18 W56	62	(AP)	2	0	1	AXX		
73	1	16	12171	S17 W62	55	1800	1.5										
73	1	17	12171	S18 W75	55	1000	1.0									3	1

MCMATH REGION 12183 CMP DATE 13.5

CALCIUM PLAGE DATA — SUNSPOT DATA — 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
73	1	12	12183	N61 E12	35	200	1.0										

MCMATH REGION 12175 CMP DATE 13.9

CALCIUM PLAGE DATA — SUNSPOT DATA — 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
73	1	8	12175	N17 E75	24	500	1.5	19084	N14 E78	28	(AP)	3	20	1	HSX		
73	1	9	12175	N16 E60	26	500	1.5		N15 E61				30	2	AXX		
73	1	10	12175	N16 E45	28	800	1.5	19084	N13 E41	32	(AP)	2	50	1	HRX		
73	1	11	12175	N15 E31	29	500	1.5	19084	N13 E27	32	(AP)	2					
73	1	12	12175	N15 E16	31	700	2.5										
73	1	13	12175	N15 E04	29	700	2.0										
73	1	15	12175	N15 W26	30	600	2.0		N11 W24				0	1	AXX		
73	1	16	12175	N15 W38	31	400	1.5										
73	1	17	12175	N15 W52	32	300	1.5										
73	1	18	12175	N14 W65	32	200	1.0										

MCMATH REGION 12184 CMP DATE 14.3

CALCIUM PLAGE DATA — SUNSPOT DATA — 9.1 CM

YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
73	1	15	12184	S08 W20	24	600	1.5										

REGIONS OF SOLAR ACTIVITY

JANUARY 1973

MCMATH REGION 12176 CMP DATE 14.9

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
73	1	8	12176	S13	E83	16	500	1.5
73	1	9	12176	S13	E70	16	800	3.0
73	1	10	12176	S14	E58	15	1000	2.5
73	1	11	12176	S14	E44	16	800	3.0
73	1	12	12176	S14	E30	17	900	3.5
73	1	13	12176	S15	E17	16	1000	2.5
73	1	14						
73	1	15	12176	S16	W12	16	1000	2.5
73	1	16	12176	S16	W21	14	800	2.5
73	1	17	12176	S16	W38	18	600	2.5
73	1	18	12176	S16	W51	18	700	2.0
73	1	19						

SUNSPOT DATA 9.1 CM

MW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT FLUX
									5 3
	S14	E74				10	1	AXX	6 4
19085	S16	E56	17	(BP)	2	0	2	BXO	
19085	S16	E45	14	(B)	1	30	7	BXC	5 3
19085	S16	E31	14		0				4 2
19085	S15	E11	18	(BP	2	0	2	BXO	4 2
19085	S14	E08	20	(AP)	2	10	4	BXO	4 2
									3 1

MCMATH REGION 12189 CMP DATE 15.0

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
73	1	16	12189	N20	W23	16	300	1.0
73	1	17	12189	N19	W37	17	300	1.0
73	1	18	12189	N18	W49	16	200	1.0

SUNSPOT DATA 9.1 CM

MW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT FLUX

MCMATH REGION 12191 CMP DATE 15.5

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
73	1	17	12191	S17	W29	9	400	3.0
73	1	18	12191	S18	W42	9	400	2.5
73	1	19						
73	1	20	12191	S16	W70	10	800	2.5
73	1	21	12191	S18	W83	11	800	3.0

SUNSPOT DATA 9.1 CM

MW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT FLUX
19087	S18	W28	9	(BP)	3	0	1	AXX	4 2
	S18	W35				50	3	DRO	
19087	S18	W55	9	B	0	40	3	DSO	
19087	S18	W69	11	AP	0				4 2

MCMATH REGION 12179 CMP DATE 16.0

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
73	1	18	12179	S17	E70	3	200	1.0

SUNSPOT DATA 9.1 CM

MW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT FLUX
									5 3

MCMATH REGION 12195 CMP DATE 16.1

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
73	1	20	12195	N13	W62	2	600	3.0
73	1	21	12195	N12	W76	4	800	2.0

SUNSPOT DATA 9.1 CM

MW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT FLUX

MCMATH REGION 12181 CMP DATE 17.0

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
73	1	11	12181	S03	E75	346	100	1.0
73	1	12	12181	S04	E59	349	100	2.0
73	1	13	12181	S04	E45	349	200	1.5

SUNSPOT DATA 9.1 CM

MW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT FLUX
									4 2

MCMATH REGION 12180 CMP DATE 17.6 RETURN OF REGION 12145 ROTATION 3

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
73	1	11	12180	N18	E80	341	800	2.0
73	1	12	12180	N17	E65	343	600	2.0
73	1	13	12180	N17	E51	343	800	2.0
73	1	15	12180	N17	E23	342	1300	2.0
73	1	16	12180	N16	E12	342	1500	2.0
73	1	17	12180	N16	W02	342	1400	2.0
73	1	18	12180	N15	W15	342	1200	2.0
73	1	20	12180	N17	W40	340	1300	2.0
73	1	21	12180	N16	W53	341	1100	2.0
73	1	22	12180	N17	W67	341	600	1.5

SUNSPOT DATA 9.1 CM

MW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT FLUX

REGIONS OF SOLAR ACTIVITY

JANUARY 1973

MCMATH REGION 12186 — CMP DATE 18.0 — RETURN OF REGION 12146 — ROTATION 2

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
73	1	12	12186	S12	E74	334	1000	1.0
73	1	13	12186	S12	E61	333	1200	1.5
73	1	15	12186	S12	E29	336	1300	2.0
73	1	16	12186	S12	E16	338	1000	2.0
73	1	17	12186	S12	E04	336	700	2.0
73	1	18	12186	S13	W08	335	700	2.0
73	1	20	12186	S13	W35	338	700	2.0
73	1	21	12186	S13	W50	338	800	2.0
73	1	22	12186	S14	W63	337	800	2.0

SUNSPOT DATA — 9.1 CM

NW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
									3	2

MCMATH REGION 12192 — CMP DATE 19.0

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
73	1	17	12192	S13	E16	324	300	3.0
73	1	18	12192	S13	E04	323	500	2.5
73	1	19						
73	1	20	12192	S12	W23	323	1000	3.5
73	1	21	12192	S13	W37	325	1400	3.5
73	1	22	12192	S14	W50	324	1600	3.5
73	1	23						
73	1	24	12192	S14	W76	325	1500	2.5

SUNSPOT DATA — 9.1 CM

NW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
19088	S13	E17	324	(BP)	3	10	1	AXX		
	S12	E09				30	7	CRO		
19088	S13	W11	325	BP	0					
19088	S13	W23	325	(BP)	3	70	12	DRO		
19088	S13	W40	324	BP	0	70	14	DAI	7	4
19088	S14	W51	326	(AP)	2	50	9	DAI	5	3
19088	S15	W65	326	BF)	3	50	6	DAO	8	4
19088	S15	W78	326	BF	0	40	3	CAO		

MCMATH REGION 12194 — CMP DATE 19.1

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
73	1	18	12194	N04	E06	321	300	3.0
73	1	19						
73	1	20	12194	N04	W20	320	300	3.0
73	1	21	12194	N04	W34	322	300	2.5
73	1	22	12194	N04	W47	321	300	2.5
73	1	24	12194	N05	W73	322	200	1.0

SUNSPOT DATA — 9.1 CM

NW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
	N03	W02				10	4	BXO		

MCMATH REGION 12185 — CMP DATE 19.7 — RETURN OF REGION 12149 — ROTATION 2

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
73	1	12	12185	N10	E89	319	200	1.0
73	1	13	12185	N11	E82	312	2000	3.0
73	1	14						
73	1	15	12185	N14	E58	315	2000	3.0
73	1	16	12185	N13	E40	314	2500	3.0
73	1	17	12185	N13	E27	313	2500	3.0
73	1	18	12185	N13	E13	314	2000	3.5
73	1	19						
73	1	20	12185	N13	W13	313	2000	3.5
73	1	21	12185	N13	W26	314	1800	3.5
73	1	22	12185	N13	W38	312	1700	3.0
73	1	23						
73	1	24	12185	N12	W65	314	1200	2.0
73	1	25	12185	N13	W76	314	1200	2.0

SUNSPOT DATA — 9.1 CM

NW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
									5	3
19086	N11	E76	314	(AP)	3	200	1	HSX	7	4
19086	N10	E66	315	(BP)	5				11	6
19086	N11	E51	316	(BP)	5	100	6	HAX	12	6
19086	N11	E25	316	(AP)	5	160	10	HAX	10	6
	N11	E16				200	12	DAO		
19086	N12	W01	315	AP	0	200	11	HAX	10	6
19086	N12	W14	316	(AP)	5	130	4	CSO		
19086	N12	W30	314	AP	0	150	8	DAO	8	4
19086	N12	W48	315	(AP)	4	100	4	CSO	5	2
19086	N12	W55	316	(AP)	4	150	3	HAX	4	2
19086	N13	W68	316	AP	0	130	2	HAX		
	N11	W76				60	1	HAX	5	2

MCMATH REGION 12190 — CMP DATE 20.0

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
73	1	16	12190	S03	E43	311	200	1.0

SUNSPOT DATA — 9.1 CM

NW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX

MCMATH REGION 12188 — CMP DATE 22.1

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
73	1	15	12188	S08	E85	280	300	1.0
73	1	16	12188	S08	E76	278	400	1.5
73	1	17	12188	S09	E61	279	400	2.0
73	1	18	12188	S09	E47	280	400	2.0
73	1	19						
73	1	20	12188	S10	E17	283	300	1.0

SUNSPOT DATA — 9.1 CM

NW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
									5	3
									2	1

REGIONS OF SOLAR ACTIVITY

JANUARY 1973

MCMATH REGION 12196 CMP DATE 22.1

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
73	1	20	12196	N17	E28	280	200	2.5
73	1	21	12196	N17	E06	282	300	3.0
73	1	22	12196	N17	W07	281	200	1.0

SUNSPOT DATA 9.1 CM

MW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
19090	N18	E05	279	BP	0	10	4	BXO		

MCMATH REGION 12206 CMP DATE 23.0

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
73	1	26	12206	N18	W48	271	300	1.0
73	1	27	12206	N19	W62	271	400	1.0

SUNSPOT DATA 9.1 CM

MW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
									3	1

MCMATH REGION 12193 CMP DATE 23.5

RETURN OF REGION 12153 ROTATION 3

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
73	1	17	12193	S14	E75	265	1000	1.5
73	1	18	12193	S14	E64	263	1000	2.0
73	1	20	12193	S15	E32	268	1000	2.5
73	1	21	12193	S14	E21	267	800	2.5
73	1	22	12193	S14	E10	264	1000	2.5
73	1	23						
73	1	24	12193	S14	W15	264	1000	2.5
73	1							
73	1	25	12193	S14	W27	263	1200	2.5
73	1	26	12193	S15	W38	261	1000	2.5
73	1	27	12193	S15	W53	262	800	2.5
73	1	28						
73	1	29	12193	S13	W62	266	200	1.0

SUNSPOT DATA 9.1 CM

MW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
									5	3
									3	1
19091	S14	E15	260	(BF)	2	10	5	BXO		
19091	S14	E01	260	BF	0	20	6	DRO		
19095	S10	W19	267	(BP)	3	20	4	CRO		
	S14	W09				0	2	BXO		
	S11	W20				20	2	BXO		
									3	1
									3	1
									2	1
									3	1

MCMATH REGION 12197 CMP DATE 25.4

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
73	1	19						
73	1	20	12197	N10	E60	240	800	3.5
73	1	21	12197	N11	E45	243	900	3.0
73	1	22	12197	N11	E32	242	900	2.5
73	1							
73	1	23						
73	1							
73	1							
73	1	24	12197	N11	E10	239	1000	3.0
73	1							
73	1	25	12197	N11	W03	239	1300	3.0
73	1	26	12197	N10	W16	239	1200	3.0
73	1							
73	1	27	12197	N10	W30	239	1000	3.0
73	1							
73	1							
73	1							
73	1							
73	1	28						
73	1	29	12197	N10	W55	239	600	2.5
73	1	30	12197	N10	W70	240	600	2.5

SUNSPOT DATA 9.1 CM

MW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
	N13	E75				10	1	AXX	3	1
19089	N11	E60	242	(BP	3	30	3	DRO		
19089	N11	E41	243	BP	0	30	2	CAO		
19089	N10	E29	246	(AP)	3	20	1	HSX	5	3
19092	N12	E38	237	(BP)	4	40	6	DSO		
19089	N10	E15	246	(AP)	3				4	2
19092	N11	E23	238	(BP)	4	60	11	DSO		
	N11	E19				20	2	HSX		
19089	N11	E03	245	(B)	3	10	1	HRX		
19092	N11	E10	238	(BP)	5	70	9	DSO		
19092	N11	W04	238	AP	0	60	15	CSO	5	2
19089	N11	W27	245	B	0				5	3
19092	N11	W23	241	(BP)	3	40	10	CAI		
19092	N10	W32	248	(AP)	2	40	4	CSO	2	1
	N09	W22				40	4	CSC		
	N10	W25				30	1	HAX		
	N10	W25				30	1	HAX		
19092	N10	W46	241	AP	0	10	2	HRX	2	1

MCMATH REGION 12201 CMP DATE 25.5

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
73	1	24	12201	N20	E11	238	200	2.0
73	1	25	12201	N20	W02	238	300	2.0
73	1	26	12201	N19	W15	238	300	2.0
73	1	27	12201	N18	W28	237	200	1.0

SUNSPOT DATA 9.1 CM

MW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX
19096	N19	E10	238		3					

MCMATH REGION 12208 CMP DATE 26.6

CALCIUM PLAGE DATA

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT
73	1	29	12208	N16	W39	223	200	1.5

SUNSPOT DATA 9.1 CM

MW NO.	LAT	CMD	L	MAG.	H	AREA	CNT	C	INT	FLUX

REGIONS OF SOLAR ACTIVITY

JANUARY 1973

MCMATH REGION 12200 — CMP DATE 27.3 — RETURN OF REGION 12155 — ROTATION 3

				CALCIUM PLAGE DATA				SUNSPOT DATA								9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT FLUX
73	1	21	12200	N06 E73	215	500	1.0									
73	1	22	12200	N04 E57	217	500	1.0									
73	1	24	12200	N05 E32	217	400	1.0									
73	1	25	12200	N06 E20	216	500	1.5									
73	1	26	12200	N05 E09	214	500	1.0									
73	1	27	12200	N04 W04	213	500	1.0									
73	1	29	12200	N05 W32	216	500	1.0									
73	1	30	12200	N05 W45	215	500	1.0	19101	N10 W49	214	BP	0				

MCMATH REGION 12202 — CMP DATE 27.8

				CALCIUM PLAGE DATA				SUNSPOT DATA								9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT FLUX
73	1	23						19094	S10 E55	206	(BP)	3				
73	1	24	12202	S08 E43	206	400	2.5	19094	S10 E40	208	(AP)	4	30	3	CSO	
73	1	25	12202	S08 E30	206	500	3.0		S10 E33				20	1	AXX	
73	1	26	12202	S08 E18	205	400	2.5		S10 E20				0	1	AXX	
73	1	27	12202	S09 E02	207	300	2.5									
73	1	29	12202	S09 W23	207	400	2.5	19098	S10 W26	208	(A)	2	20	2	BXO	
73	1	30	12202	S09 W37	207	400	2.0									
73	1	31	12202	S10 W52	207	400	2.5									
73	2	01	12202	S10 W61		300	1.5									

MCMATH REGION 12210 — CMP DATE 28.1

				CALCIUM PLAGE DATA				SUNSPOT DATA								9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT FLUX
73	2	01	12210	N11 W57		200	2.0									

MCMATH REGION 12199 — CMP DATE 28.2 — RETURN OF REGION 12165 — ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA								9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT FLUX
73	1	21	12199	N20 E85	203	700	2.5									4 2
73	1	22	12199	N19 E72	202	1200	2.5	19093	N21 E70	205	AP	0				4 2
73	1	23														5 2
73	1	24	12199	N19 E46	203	2000	2.5									
73	1	25	12199	N19 E33	203	2200	3.0									5 3
73	1	26	12199	N19 E22	201	2000	3.0									5 2
73	1	27	12199	N19 E08	201	2000	3.5									5 2
73	1	28							N19 W09				0	3	AXX	4 2
73	1	29	12199	N18 W18	202	1800	3.5	19099	N17 W22	204	(AP)	1				3 2
73	1	30	12199	N18 W32	202	1700	2.5									3 1
73	1	31	12199	N17 W45	200	1500	2.5									3 1
73	2	01	12199	N17 W60		1300	2.0									
73	2	02	12199	N19 W78		1000	1.5									

MCMATH REGION 12213 — CMP DATE 29.7

				CALCIUM PLAGE DATA				SUNSPOT DATA								9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT FLUX
73	2	03	12213	S16 W64		600	2.5									
73	2	04	12213	S16 W78		500	2.0									

MCMATH REGION 12203 — CMP DATE 30.0 — RETURN OF REGION 12158 — ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA								9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	AREA	CNT	C	INT FLUX
73	1	24	12203	S10 E72	177	300	1.0									
73	1	25	12203	S10 E58	178	300	1.5									
73	1	26	12203	S10 E46	177	400	1.0									
73	1	27	12203	S10 E31	178	400	1.5									
73	1	29	12203	S11 E05	179	500	1.0									
73	1	30	12203	S11 W09	179	500	1.0									

Note: Region 12176 may possibly also be related to the return of region 12148 of the previous rotation.
No calcium spectroheliograms were secured at the McMath-Hulbert Observatory on January 4, 14, 19, 23 and 28, 1973.
No sunspot observations were made at Mt. Wilson Observatory on January 3, 9, 16 and 18, 1973.

DAILY CALCIUM PLAGE INDEX

JANUARY 1973

YR	MO	DAY	INDEX	YR	MO	DAY	INDEX	YR	MO	DAY	INDEX
73	1	1	9.0	73	1	11	15.0	73	1	21	17.3
73	1	2	16.9	73	1	12	15.8	73	1	22	14.2
73	1	3	17.6	73	1	13	12.3	73	1	23	*
73	1	4	*	73	1	14	*	73	1	24	11.7
73	1	5	24.7	73	1	15	14.9	73	1	25	14.8
73	1	6	24.6	73	1	16	14.1	73	1	26	13.5
73	1	7	23.1	73	1	17	14.9	73	1	27	14.6
73	1	8	23.4	73	1	18	15.4	73	1	28	*
73	1	9	22.4	73	1	19	*	73	1	29	14.6
73	1	10	19.8	73	1	20	19.0	73	1	30	15.3
								73	1	31	17.2

* NO OBSERVATIONS

SOLAR X-RAYS MEASURED BY SATELLITE
SOLRAD 10 – EXPLORER 44

JANUARY 1973

NAVAL RESEARCH LABORATORY 1 - 8A HOURLY AVERAGES (10^{-3} ergs/cm^2/sec)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	0.19	0.17	0.24	0.22	0.20	0.16	0.20	0.30	0.21	0.17	0.17	0.17	0.21	0.24	0.17	0.16	0.20	0.15	0.20	0.16	0.15	0.19	0.17	0.23
2	0.18	0.30	0.22	0.62	0.33	0.22	0.29	0.31	0.44	0.30	0.52	0.25	0.38	0.25	0.22	0.24	0.41	0.30	0.36	0.44	0.48	0.55	0.35	0.35
3	0.49	0.34	0.36	0.36	1.71	1.96	0.89	0.43	0.71	0.28	0.26	0.31	0.43	0.32	0.60	1.77	1.41	0.37	5.76	0.80	0.69	1.62	0.36	0.28
4	0.30	0.70	0.81	1.23	0.25	0.23	1.63	0.73	0.41	0.25	0.22	0.24	0.48	2.18	0.20	0.24	0.49	0.22	0.24	0.27	1.81	0.70	0.69	0.57
5	0.60	0.34	0.24	0.37	0.29	0.24	0.53	0.23	0.22	0.30	0.27	0.27	1.00	0.47	0.39	1.05	0.51	0.47	0.55	0.38	0.36	0.83	0.71	1.36
6	1.15	1.38	0.64	0.75	1.04	1.28	2.32	0.65	0.54	0.41	1.05	1.02	1.06	5.11	15?2	1.34	0.56	0.40	0.72	0.54	0.37	0.58	0.42	0.42<
7	0.46	0.68	1.53	1.03	0.80	1.15	1.33	0.51	0.31	0.28	0.34	1.29	0.88	0.91	0.34	0.85	0.41	0.49	0.64	0.58	0.45	0.38	1.24	0.56
8	0.23	0.25	0.23	0.25	0.25	0.30	0.21	0.20	0.23	0.23	0.24	0.20	0.20	0.18	0.17	0.23	0.18	0.30	0.36	0.26	0.22	0.19	0.22	0.26
9	0.25	0.29	0.25	0.28	1.75	0.44	0.32	0.30	0.24	0.26	0.32	0.40	0.27	0.24	0.24	0.23	0.26	0.23	0.30	0.30	0.47	0.89	0.28	0.48
10	0.41	1.21	0.81	0.38	0.52	0.37	2.45	0.96	0.29	0.56	0.64	0.42	0.87	0.46	0.38	0.38	0.49	0.71	0.36	1.42	0.95	0.47	0.33	0.34
11	0.77	4.84	2.28	1.61	1.14	0.81	0.57	0.28	0.29	0.29	0.28	0.33	0.29	0.31	0.33	0.66	0.32	1.76	3.95	4.20	0.56	1.26	0.90	1.50
12	1.23	0.87	0.52	1.15	0.46	0.67	0.33	0.45	0.99	0.53	0.32	0.46	10.4	0.54	0.31	0.25	1.91	2.81	3.72	0.84	0.90	0.85	1.62	0.64
13	1.19	0.57	0.43	0.43	0.56	0.64	0.59	1.08	2.40	1.62	2.28	1.61	2.39	0.88	0.60	0.67	1.21	1.44	0.50	0.58	0.47	0.23	0.26	0.59
14	0.30	0.83	0.42	0.23	0.25	0.22	0.20	0.21<	0.27<	0.27<	0.24<	0.29<	0.25<	0.21<	0.25<	0.23<	0.18<	0.15	0.15	0.21	0.23	0.33	0.18	0.17
15	0.21	0.24	0.24	0.20	0.17	0.14	0.18	0.15	0.17	0.15	0.15	0.10	0.09	0.09	0.09	0.09	0.09	0.10	0.09	0.08	0.08	0.10	0.10	0.07
16	0.06	0.06	0.07	0.07	0.08	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.10	0.06	0.09	0.10	0.11	0.09
17	0.08	0.06	0.06	0.06	0.06	0.06	0.07	0.06	0.06	0.06	0.06	0.06	0.07	0.07	0.31	0.18	0.13	0.10	0.11	0.09	0.08	0.08	0.08	0.07
18	0.07	0.06	0.07	0.06	0.07	0.06	0.06	0.06	0.06	0.06	0.07	0.06	0.06	0.07	0.08	0.09	0.07	0.06	0.06	0.05	0.06	0.06	0.05	0.06
19	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.06	0.08	0.06	0.06	0.06	0.07	0.12	0.09	0.07
20	0.06	0.06	0.08	0.08	0.08	0.06	0.06	0.07	0.06	0.06	0.09	0.09	0.09	0.12	0.13	0.11	0.12	0.16	0.11	0.16	0.11	0.14	0.12	0.12
21	0.12	0.16	0.12	0.11	0.09	0.09	0.09	0.09	0.08	0.07	0.08	0.09	0.09	0.09	0.08	0.07	0.09	0.08	0.09	0.08	0.08	0.08	0.08	0.07
22	0.10	0.13	0.28	0.09	0.09	0.09	0.29	0.15	0.12	0.09	0.10	0.09	0.09	0.08	0.09	0.09	0.09	0.08	0.07	0.08	0.13	0.08	0.08	0.08
23	0.06	0.07	0.07	0.10	0.06	0.07	0.07	0.08	0.09	0.18	0.36	0.27	0.31	0.19	0.62	0.22	0.22	0.22	0.14	0.13	0.12	0.12	0.16	0.21
24	0.15	0.13	0.18	0.10	0.20	0.11	0.30	0.12	0.21	0.29	0.27	0.19	0.15	0.14	0.24	0.11	0.14	0.10	0.11	0.11	0.15	0.13	0.11	0.17
25	0.15	0.12	0.10	0.10	0.20	0.14	0.11	0.11	0.19	0.30	0.12	0.10	0.12	0.10	0.11	0.11	0.13	0.17	0.11	0.10	0.12	0.32	0.18	0.12
26	0.13	0.23	0.14	0.12	0.12	0.12	0.12	0.14	0.23	0.18	0.16	0.13	0.27	0.15	0.12	0.12	0.13	0.12	0.11	0.12	0.19	0.25	0.20	0.16
27	0.12	0.12	0.11	0.13	0.13	0.10	0.10	0.11	0.09	0.09	0.09	0.09	0.10	0.09	0.14	0.13	0.12	0.11	0.12	0.12	0.10	0.15	0.15	0.12
28	0.09	0.09	0.09	0.08	0.08	0.11	0.09	0.08	0.09	0.08	0.23	0.09	0.12	0.37	0.08	0.08	0.07	0.06	0.07	0.06	0.06	0.08	0.06	0.06
29	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.05	0.06	0.05	0.05	0.06	0.06	0.06	0.06	0.05	0.06	0.06	0.05	0.06	0.06	0.10	0.06	0.06
30	0.07	0.11	0.06	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.13	0.10	0.06	0.08	0.04	0.04	0.05	0.06	0.05	0.05	0.04	0.08	0.06	0.04
31	0.05	0.04	0.05	0.05	0.04	0.03	0.03	0.04	0.03	0.03	0.03	0.03	0.04	0.03	0.05	0.05	0.04	0.04	0.04	0.04	0.07	0.06	0.06	0.05

VALUES MARKED WITH (<) WERE CALCULATED FROM DATA PROVIDED BY SOLRAD 9

SOLAR X-RAYS MEASURED BY SATELLITE
SOLRAD 10 – EXPLORER 44

JANUARY 1973

NAVAL RESEARCH LABORATORY 8 - 20A HOURLY AVERAGES (10^{-2} ergs/cm^2/sec)

DAY	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	0.89	0.85	0.97	0.96	0.95	0.85	0.91	1.21	1.00	0.90	0.93	0.90	0.89	0.97	0.85	0.88	0.89	0.78	1.09	0.86	0.81	0.82	0.85	0.93
2	0.85	1.04	0.95	1.39	1.15	0.99	1.05	1.05	1.28	1.43	1.35	1.07	1.23	1.14	1.02	1.04	1.47	1.15	1.65	1.48	1.43	1.47	1.30	1.31
3	1.45	1.26	1.23	1.27	3.78	3.72	1.78	1.80	2.08	1.47	1.19	1.22	1.32	1.29	1.59	3.43	3.09	1.79	6.84	2.62	1.95	3.21	1.39	1.23
4	1.23	1.81	2.16	2.83	1.15	1.10	2.08	2.49	1.46	1.28	1.11	1.09	1.26	3.98	1.05	1.03	1.72	1.15	1.10	1.17	3.09	2.32	2.55	1.61
5	1.59	1.39	1.14	1.25	1.17	1.10	1.40	1.15	1.10	1.26	1.14	1.15	1.85	1.47	1.45	2.41	1.56	1.70	1.55	1.42	1.37	2.10	1.96	3.31
6	2.89	2.92	2.19	2.17	2.66	3.07	4.39	2.32	2.06	1.52	2.93	2.96	2.96	6.13	14?9	3.75	1.73	2.00	2.46	2.11	1.62	1.94	1.69	
7	1.51	1.88	3.42	2.96	2.92	2.96	3.26	1.71	1.45	1.28	1.33	2.90	2.85	1.78	1.41	2.18	1.77	1.52	1.67	1.67	1.52	1.43	2.78	1.59
8	1.13	1.15	1.14	1.12	1.14	1.25	1.19	1.01	1.10	1.10	1.13	1.02	0.96	1.02	1.15	1.29	1.06	1.06	1.20	1.08	1.05	0.97	1.04	1.14
9	1.13	1.22	1.14	1.19	2.64	1.43	1.37	1.27	1.16	1.10	1.19	1.38	1.24	1.20	1.48	1.09	1.21	1.11	1.22	1.15	1.42	2.15	1.26	1.51
10	1.50	2.86	2.56	1.40	1.57	1.43	4.05	1.83	1.27	1.53	1.58	1.48	2.17	1.43	1.57	1.45	1.80	1.94	1.44	2.89	1.83	1.56	1.40	1.28
11	2.08	7.06	5.53	4.37	3.03	2.85	1.88	1.40	1.35	1.27	1.25	1.34	1.40	1.37	1.68	1.61	1.29	2.46	5.75	5.31	1.76	2.96	2.96	3.39
12	2.91	2.74	1.70	2.74	1.65	1.90	1.38	1.47	2.65	2.09	1.43	1.47	9.51	1.97	1.70	1.30	3.49	4.61	5.18	2.71	2.87	2.77	3.35	2.15
13	2.91	2.01	1.58	1.79	1.82	2.01	1.70	2.71	5.45	4.44	5.74	4.70	5.92	3.22	2.70	2.72	2.92	2.96	2.03	1.51	1.32	1.12	1.18	1.65
14	1.28	1.67	1.34	1.18	1.18	1.15	1.09											0.82	0.86	0.99	0.98	1.22	0.95	0.87
15	0.95	1.02	1.02	0.95	0.85	0.81	0.89	0.85	0.85	0.81	0.79	0.80	0.59	0.74	0.63	0.59	0.59	0.59	0.60	0.57	0.53	0.58	0.61	0.55
16	0.47	0.47	0.48	0.47	0.52	0.46	0.49	0.45	0.46	0.46	0.45	0.56	0.64	0.54	0.46	0.43	0.46	0.46	0.48	0.46	0.53	0.56	0.59	0.48
17	0.47	0.46	0.46	0.45	0.45	0.41	0.46	0.43	0.44	0.42	0.43	0.53	0.62	0.44	0.83	0.68	0.59	0.58	0.57	0.55	0.49	0.51	0.51	0.47
18	0.49	0.46	0.47	0.46	0.48	0.50	0.46	0.46	0.46	0.46	0.69	0.46	0.65	0.46	0.50	0.47	0.46	0.46	0.42	0.42	0.41	0.45	0.42	0.41
19	0.41	0.45	0.44	0.43	0.47	0.52	0.46	0.45	0.43	0.43	0.58	0.42	0.52	0.44	0.40	0.44	0.47	0.46	0.46	0.44	0.47	0.53	0.46	0.48
20	0.41	0.42	0.48	0.50	0.47	0.49	0.45	0.48	0.51	0.46	0.63	0.66	0.58	0.62	0.60	0.60	0.60	0.67	0.60	0.59	0.61	0.71	0.66	0.67
21	0.64	0.70	0.64	0.62	0.59	0.61	0.57	0.57	0.59	0.52	0.66	0.67	0.57	0.57	0.51	0.48	0.56	0.55	0.54	0.50	0.52	0.51	0.47	0.48
22	0.55	0.61	0.73	0.59	0.60	0.50	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.35	0.55	0.58	0.48	0.46	0.52	0.60	0.52	0.50	0.49
23	0.46	0.46	0.47	0.54	0.49	0.47	0.47	0.56	0.53	0.89	0.99	1.03	1.02	0.86	1.44	0.82	0.83	0.82	0.70	0.67	0.62	0.61	0.68	0.81
24	0.73	0.69	0.76	0.61	0.69	0.62	0.79	0.76	0.79	0.90	0.95	0.83	0.73	0.71	0.84	0.63	0.68	0.60	0.67	0.68	0.71	0.66	0.62	0.83
25	0.74	0.70	0.62	0.62	0.85	0.72	0.66	0.72	0.78	0.94	0.76	0.64	0.68	0.65	0.69	0.69	0.70	0.81	0.69	0.68	0.72	1.04	0.85	0.73
26	0.73	0.92	0.75	0.72	0.73	0.74	0.71	0.82	1.11	0.89	0.87	0.77	0.95	0.82	0.73	0.72	0.72	0.71	0.69	0.71	0.85	0.99	0.92	0.84
27	0.72	0.71	0.69	0.78	0.72	0.67	0.73	0.66	0.72	0.58	0.61	0.58	0.60	0.59	0.69	0.72	0.66	0.66	0.70	0.68	0.64	0.72	0.72	0.65
28	0.59	0.58	0.60	0.58	0.58	0.61	0.66	0.59	0.65	0.57	0.76	0.57	0.61	1.08	0.53	0.52	0.50	0.49	0.53	0.46	0.46	0.48	0.45	0.46
29	0.46	0.47	0.46	0.46	0.47	0.46	0.53	0.47	0.51	0.47	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.57	0.46	0.46
30	0.51	0.62	0.51	0.46	0.46	0.46	0.52	0.55	0.46	0.47	0.61	0.62	0.48	0.54	0.46	0.46	0.46	0.46	0.46	0.46	0.45	0.48	0.49	0.48
31	0.46	0.46	0.46	0.46	0.46	0.52	0.46	0.53	0.46	0.42	0.39	0.40	0.44	0.45	0.47	0.46	0.46	0.46	0.46	0.46	0.48	0.48	0.48	0.46

SOLAR X-RAYS BY SATELLITE
SOLRAD 10 - EXPLORER 44

JANUARY 1973

NAVAL RESEARCH LABORATORY

OUTSTANDING EVENTS

DAY	START TIME	0.5-3A FLUX XE-5	PEAK TIME	1-8A FLUX XE-4	PEAK TIME	8-20A FLUX XE-3	PEAK TIME	END TIME	COMMENTS
3	0527	6,35	0527	48,30	0528	59,20	0527	0533	
3	1800E	28,80D	1802E	93,40	1805	88,80	1805	1814	
4	0645	14,40	0646	61,20	0649	59,20	0647	0655D	
4	2032	9,60	2032	45,10	2033	44,40	2032	2043	
6	1347	52,80D	1401E	288,00	1359	178,00	1402	1422D	
9	0453	0,00D	0453D	48,30	0455	59,20	0455	0458	
10	0624	6,13	0628	38,60	0629	59,20	0628	0636	
11	0108E	9,60D	0108E	144,00D	0108E	148,00	0109	0200	
11	1834E	5,26D	1834E	58,00D	1834E	74,00D	1834E	1844	
11	1857	38,40	1900	144,00	1859	88,80	1859	1907	
12	1200	76,80	1235	288,00	1235	163,00	1236	1251	MULTIPLE PEAKS
12	1646	4,80	1646	38,60	1647	59,20	1648	1650	
12	1712	9,60	1717	64,40	1719	74,00	1721	1727	
12	1823	38,40	1825	144,00	1825	88,80	1825	1834	
12	2217	6,13	2220	38,60	2218	59,20	2218	2221	
13	1228	3,50	1229	32,20	1228	59,20	1228	1232	

SUDDEN IONOSPHERIC DISTURBANCES

JANUARY 1973

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	McMATH REGION
02	0346	0429	0351	1-	1					1	1		0350	12160
02	1644	1710	1646	1-	3						2		1644	12153
03	0523	0552	0528	1-	1				1				0527	12164
03	1545	1630	1555	1-	1				1		1		1542	12166
03	1635	1714	1643	1-	1	1							1630	12164
03	1801	1907	1808	1+	5			1	2	1	9		1801	12164
03	1839	1850	1840	1-	1	1							1835	12160
04	0310	0338	0320	1-	1				1				0312	12164
04	0641	0804	0650	1-	3				2				0639	12164
04	2032	2105	2041	1-	5						6		2030	12160
05	0831	0842	0834	1-	1			1					0833	12160
05	0940	0959	0952U	1-	1			1					0940	12160
05	1240	1255	1249	1-	1						1		1241E	12164
06	1020	1035	1024	1-	1						1		1019E	12169
06	1250	1330	1300	1-	1				1		1		1251	12164
06	1353	1600	1402	2-	5	1		3	2		2		1350	12164
07	0646	0730	0648	1-	3				2				0650E	12164
07	1100	1130	1105	1	3			2	1		2		1055E	12164
07	2237	2340	2235	1	3					2	2		2235E	12164
10	0607	0750	0630	1	1						1		0607	12160
11	0040	0309	0056	3	5	2	1	1	2	1	3		0036	12160
11	1715	1800D	1719	1	5			3	1		10		1717E	12160
11	1800	2000	1814	2+	5	3	1	3	1		11		1800	X-RAY
11	1859	1930	1905	1-	5			2			10		1858E	12164
11	2132	2210	2136	1-	5					1	6		2133	12164
12	1159	1210	1202	1	5	3			2		3		1158	12164
12	1644	1710	1652	1-	3						5		1641	12164
12	1711	1750	1724	1-	5						6	1	1710	12164
12	1823	1900	1828	1-	5			2			8		1814	12164
12	1940	2010	1946	1-	5						5		1939	12164
13	0451	0608	0456	1	3	1		1	2	1	1		0449	X-RAY
16	1526	1531	1531	1-	1					1	1		*	
16	1805	1820	1820	1	1					1	1		1812E	12185
18	1226	1240	1230	1-	1						1		1225	12185
22	1152	1231	1217	1+	3			1		1	1		1149	12197
22	1425	1500	1455	1+	1					1	1		1420	12194
23	1201	1245	1209	1-	1						1		*	
28	1004	1028	1008	1-	1			1					1008	12200
29	1119	1159	1131	1-	1			1					*	

STATIONS REPORTING FOR JANUARY 1973

AAVSO (A1, A8, A17, A22, A23, A26, A31, A32, A33) (SEA)
(A1, A19, A21, A28, A30, A31, A35, A36, A37, (SES)
BOULDER (BO) (SCNA, SEA)
DARMSTADT (DA) (SWF)
GESASHI (LORAN-C) (GE) (LF-SPA, SES)
HAWAII (HA) (SFD)
HERSTMONCEUX (HC) (SEA)
HIRAISO (HI) (SWF)
HOBART (TA) (SEA)
HUANCAYO (HU) (SWF)
INUBO (IN) (SPA)
KUHLUNGSBORN (KU) (SEA, SPA)
KURE (LORAN-C) (KR) (LF-SPA, SES)
MANILA (MA) (SWF, SCNA, SPA)
MARCUS (LORAN-C) (MR) (LF-SPA, SES)
MCMATH (MC) (SWF, SCNA)
NANTUCKET (LORAN-C) (NT) (LF-SPA, SES)
PANSKA VES (PU) (SEA, SES)
PRESTON (LO) (SEA)
SANDUR (LORAN-C) (SA) (LF-SPA, SES)
SAO PAULO (UM) (SPA, SES)
SOFIA (SF) (SES)
SYLT (LORAN-C) (ST) (LF-SPA, SES)
TABLE MOUNTAIN (TM) (SWF, SPA, LF-SPA)
TRINIDAD (TR) (SWF)
UPICE (UI) (SEA)
UPOLO POINT (LORAN-C) (UP) (LF-SPA, SES)
WHITE SANDS (WS) (SWF)
YAP (LORAN-C) (YP) (LF-SPA, SES)

PERIODS OF NO OBSERVATIONS:

DATE	TIME (UT) and STATION
01	0000-0034 TM
02	1000-1341 UM (16 kHz), 1300-1406 TR
03	1715-1740 TR, 1800-1837 WS,
	2238-2324 TM
04	1354-1400 TM, 1649-1708 TR,
	1700-2117 UM (18 kHz), 1726-1911 TM,
	1805-1815 TR, 1858-1919 TR, 1935-1948 TR
09	1005-1357 UM (16 kHz), 1553-1922 UM (18 kHz)
	2200-2350 UM (18 kHz)
10	0423-1307 TM, 1800-2400 BO
11-17	0000-2350 BO
12	0615-1310 TM, 2332-2337 TM,
	1400-1728 UM (17 kHz)
14	0810-0953 UM (16 kHz)
15-26	0300-2000 A36
18	1700-2400 UM (18 kHz), 2048-2115 UM (17 kHz)
19	0000-0020 UM (kHz), 1400-1650 UM (17 kHz)
20	0223-0228 TM, 0300-0346 TM, 0508-0604 TM
21	2116-2117 MA
22	1533-1633 TM
23	1003-1345 UM (16 kHz), 1530-1627 TM,
	0810-1543 WS
24	0810-0850 UM (16 kHz), 2054-2400 TR
25-31	0000-2400 A32
25	0000-0500 TM, 0000-1213 TR,
	0505-0513 MA, 1820-2400 TR
26	0000-1456 TR, 1400-1613 UM (17 kHz)
27	0752-1708 WS
29	0456-0558 TM
31	0710-2400 WS, 2120-2400 TM

SID's BY McMATH REGION

JANUARY 1973

DAY	53	60	64	66	69	85	94	97	00	X-RAY	UN-KNOWN	NO FP
01												
02	1	1										
03		1	3	1								
04		1	2									
05		2	1									
06			2		1							
07			3									
08												
09												
10		1										
11		2	2							1		
12			5									
13										1		
14												
15												
16						1						1
17												
18						1						
19												
20												
21												
22							1	1				
23												1
24												
25												
26												
27												
28									1			
29												1
30												
31												

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JANUARY 1973

JAN. 1973	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
01			CULG				0000	0735								IS,W
	0000	0735	CULG							0000	0735	1				IS
			CULG							0102.5						IIIB,W
			CULG							0348.5						IIIB,W
			CULG				0446		1	0446		1				IIIB
	0756	1457	WEIS							0839.9	0840.1	1				IIIG
			WEIS							0956.5	0956.9	1				IIIG
			WEIS							1204.6	1206.7	2				IIIG
	1417	2346	HARV							1418	1828	1				IN
			HARV							1503	1505	3	1503	1505	3	IIIGG,V
	1218	2116	SGMR										1503.7	1505.1	2	III
			HARV							1620	1621	3	1620	1621	3	IIIGG,V
			SGMR										1620.0	1621.1	2	III
			HARV							1828	2345	1				I
			CULG							2038	2400					IIIS,W
	2038	2400	CULG				2057	2327.5	1	2038	2400	1				IS
02			CULG							0000	0729					IIIS,W
	0000	0735	CULG				0059.5	0137.5	1	0000	0735	1				IS
			CULG				0343.5	0345	1	0343.5	0345	1				IIIG
			CULG							0605	0606	1				IIIG,U
			CULG							0659	0701	1				IIIG
	0756	1459	WEIS													
	1219	2117	SGMR													
	1417	2347	HARV							1418	2347	1				IN
	2037	2400	CULG							2037	2400	1				IS
			CULG							2134	2359.5	1				IIIN
	2127	2400	BOUL							2239.5	2239.9	1	2239.5	2239.9	1	IIIG
			CULG							2319	2328	1				IIIG
			CULG							2327	2329	1				IIIG
			CULG							2338.5	2339.5	1				IIIG
			CULG				2354	2354.5	1	2354	2355	1				IIIG,U
03			CULG							0007.5		1				IIIB
			CULG							0010	0015	1				IIIGG
			CULG							0016.5	0736	1				IIIN
			CULG							0313.5		1				IIIB
	0000	0736	CULG				0351	0417		0000	0728.5					IS,W
			CULG							0650.5	0651.5	1				IIIG
			CULG				0653	0656.5	1	0653	0657	1				IIIGG
	0755	0803	WEIS													
	0819	1459	WEIS													
	1218	2118	SGMR													
	1416	2347	HARV							1527	2020	1				I
	1430	1900	BOUL							1539.9	1540.0	1	1539.9	1540.0	1	III
			HARV				1546	1548	2	1547		1	1547		2	IIIGG
			BOUL							1546.4	1547.9	2	1546.4	1547.9	2	IIIG
			BOUL							1601.7	1601.8	1	1601.7	1601.8	1	III
			HARV				1630	1633	1	1631		1	1631		2	IIIG
			HARV				1800	1802	1	1801	1803	2	1803		2	IIIG
			BOUL							1803.0	1803.5	2	1803.0	1803.5	2	III
			HARV							1813		3	1813		3	IIIB
			BOUL							1813.0	1813.5	2	1813.0	1813.5	2	III
			HARV							2020	2342	1				IN
	2200	2400	BOUL													
	2037	2400	CULG				2222.5	2400	1	2037	2400	1				IS
04	0000	0736	CULG				0000	0736	1	0000	0736	1				IS
			CULG							0003	0130	1				IIIS
			CULG							0130	0657	1				IIIN
	0755	1500	WEIS							1200.3	1200.4	1				IIIB
	1218	2119	SGMR													
	1416	2348	HARV				1421	1457	1	1428	1440	1				IN
	1430	2200	BOUL							1430.0	2200.0	1	1430.0	2200.0	1	CONT
			HARV							1706	1708	3				IIIGG
			BOUL							1707.4	1708.0	2	1707.4	1708.0	2	III
			CULG							2038	2254					IIIS,W
	2038	2400	CULG				2038	2356	1	2038	2300	1				IS
			HARV							2057	2059	2	2058	2059	2	IIIG
			CULG				2057.5	2058.5	1	2057.5	2059	1				IIIGG
			BOUL							2057.9	2058.8	2	2057.9	2058.8	2	III
			CULG							2300	2359.5	1				IIIN
05	0000	0737	CULG							0000	0500					IIIS,W
			CULG				0004.5	0500	1							IS
			CULG							0010.5	0013.5	1				IIIG
			CULG							0554	0555	1				IIIG
	1218	2119	SGMR										1312.6	1313.0	1	III
	0756	1433	WEIS							1315.5	1315.8	1				IIIG
			WEIS							1352.2	1353.4	3				IIIG
	1417	2349	HARV							1419	2347	1				IN
	1438	2408	BOUL										1439.5	1447.3	1	IIIG
	1444	1500	WEIS													
			HARV				1515	2327	1							IN
			BOUL							1516.6	1520.7	1	1516.6	1520.7	1	IIIGG
			BOUL							1520.0	2322.5	1	1520.0	2322.5	1	CONT
			HARV							1547	2109	1				IIIN
			HARV										1712	2019	1	IIIN
			HARV				1955	1957	3	1957		2				IIIGG
			HARV				2008	2009	1	2008	2010	2				IIIGG,V

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JANUARY 1973

JAN. 1973	TIMES OF OBSERVATION		STATION	EVENTS													SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.		
05			BOUL							2008.0	2010.3	2	2008.0	2010.3	2		IIIG
			SGMR										2009.0	2009.6	1		III
			CULG							2038	2400	1					IIIS
	2038	2400	CULG				2038	2400	1	2038	2400	1					IS
			CULG				2202	2202.5	1	2202	2202.5	1					FASTDRIFT
			CULG				2246	2247	1								FASTDRIFT
06			CULG							0000	0737	1					IIIS
	0000	0737	CULG				0000	0737	1	0000	0737	1					IS
	0756	1500	WEIS							0836.0	1433.0	1					I
			WEIS							1141.0	1142.3	2					IIIG
	1219	2120	SGMR										1255.0	2035.0	2		CONT
			WEIS							1313.8	1314.2	2					IIIG
	1416	2349	HARV				1419	2214	1	1416	1700	1	1501	1700	1		I
	1430	2400	BOUL							1433.5	1608.9	3	1433.5	1608.9	3	IV	
			BOUL							1457.0	1459.2	2	1457.0	1459.2	2	II	
			HARV				1533	1535	1	1533	1535	1					IIIG
			HARV				1537		1	1537		1					IIIG
			BOUL							1609.0	1623.9	1	1609.0	1623.9	1	IV	
			BOUL							1624.0	2100.0	3	1624.0	2100.0	3	IV	
			HARV							1700	1737	2	1700	1737	2		IC
			HARV							1737	1840	3	1737	1840	3		IC
			HARV							1840	2000	2	1840	2000	2		IC
			HARV							1840	2200	2	1840	2200	2		IIIN
			HARV							1900	1902	3	1900	1902	3		IIIGG
			HARV				1918	1921	2	1918	1921	2					IIIGG
			HARV				1940		1	1940		2					IIIG
			HARV							2000	2345	1	2000	2345	1		I
			CULG				2038	2400									IS,W
			CULG							2038	2400	1					IS
	2038	2400	CULG							2038	2400	1					IIIS
			CULG							2053	2058	1				II	
			BOUL							2100.0	2327.0	1	2100.0	2327.0	1		CONT
			CULG				2240.5	2241	1								IIIG
			CULG				2328.5	2324.5	1								IIIGG
			HARV				2322	2323	1	2320	2324	2					IIIGG
			CULG				2357	2359	1								IIIGG
07	0000	0738	CULG				0000	0738	1	0000	0300	1					IS
			CULG				0000	0001	1								IIIG
			CULG							0000	0738	1					IIIS
			CULG				0028.5	0031.5	1	0028.5	0031.5	1					IIIGG,U
			CULG				0208	0209	1								IIIGG
			CULG				0217	0217.5	1								IIIG
			CULG							0300	0738	2					IS
			CULG				0352	0354.5	1	0352	0354.5	1					IIIGG
			CULG				0400	0401	1								IIIG
			CULG				0556	0558	1								IIIGG
	0756	1500	WEIS							0853.4	0853.6	1					IIIG
			WEIS							0934.3	0934.5	2					IIIB
			WEIS							0947.7	0947.9	2					IIIG
			WEIS							1003.1	1003.2	1					IIIB
			WEIS							1024.7	1024.9	1					IIIB,U
			WEIS							1219.7	1220.4	1					IIIG
			WEIS							1346.7	1346.8	2					IIIB
	1417	2350	HARV				1417	2346	1	1417	2349	1					I
	1430	2400	BOUL							1432.0	2324.0	2	1432.0	2324.0	2		CONT
			HARV							1614	1700	2	1614	1700	2		SIIN
			BOUL							1637.9	1645.2	2	1637.9	1645.2	2	II	RS
			HARV							1700	1908	2	1700	1908	2		IIIS
			BOUL							1702.0	1710.0	2	1702.0	1710.0	2	II	
			HARV				1854	2034	1								IIIS
			HARV							1910	2217	2	1910	2217	2		IIIN
	2040	2400	CULG				2040	2400	1	2040	2400	2					IS
			CULG							2040	2400	1					IIIS
			CULG							2049	2051.5	2					IIIGG,U
			HARV							2049	2052	3	2050	2052	3		IIIGG,U
			BOUL							2049.5	2052.3	2	2049.5	2052.3	2		III
	1219	2121	SGMR										2051.0	2051.5	1		III
			CULG							2216.5	2217	2					IIIG
			BOUL							2216.6	2217.6	2	2216.6	2217.6	2		IIIG
			CULG							2228.5	2229	2					IIIG,U
			BOUL							2228.6	2228.9	2	2228.6	2228.9	2		III
			BOUL							2318.2	2318.5	1	2318.2	2318.5	1		III
			CULG							2322.5	2324	1					IIIGG
			BOUL							2322.7	2324.2	1	2322.7	2324.2	1		IIIG
08	0000	0739	CULG							0000	0304	1					IIIS
			CULG				0000	0739		0000	0739						IS,W
			CULG							0107.5	0111	2					IIIGG,V
			CULG				0126.5	0127	1								IIIG
			CULG							0304	0739						IIIN,W
			CULG							0341		1					IIIB
			CULG							0454	0454.5	1					IIIG,U
			CULG				0550	0559	1								IIIG
			CULG				0631		1								IIIB
			CULG				0637	0638	1	0637	0638	1					IIIG
	0756	1348	WEIS							1040.1	1041.3	1					IIIG
	1402	1508	WEIS														
	1417	2351	HARV				1417	2130	1	1417	1540	1					IN

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JANUARY 1973

JAN. 1973	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
08			HARV				1427	1429	1	1427	1429	2				IIIGG
	1430	2400	BOUL							1444.9	1814.0	1				IIIN
			HARV							1540	1800	1				I
			HARV							1800	2351	1				IN
			BOUL							1814.1	1816.2	1	1814.1	1816.2	1	IIIG
			HARV							1815	1816	2				IIIG
			BOUL							1818.7	1825.6	3	1818.7	1825.2	3	IIIG
	1218	2122	SGMR										1819.1	1832.2	2	IIIG
			HARV				1820	1826	1	1819	1826	3	1819	1826	3	IIIGG,V
			BOUL							1823.2	1824.3	1	1823.2	1824.3	1	IIIG
			BOUL							1825.4	1826.3	2	1825.4	1826.3	2	III
			BOUL							1829.6	1829.8	1	1829.6	1829.8	1	III
			BOUL							1830.0	2223.0	1	1830.0	2223.0	1	CONT
			HARV				1831	1832	1	1829	1832	3	1829	1832	3	IIIG,V
			BOUL							1831.7	1832.2	2	1831.7	1832.2	2	III
			HARV							1849		2				IIIG
			BOUL							1849.1	1849.4	1				III
			HARV							1858	1859	2	1858	1859	2	IIIG
			BOUL							1858.7	1859.3	1	1858.7	1859.3	1	IIIG
			BOUL										2006.5	2006.7	1	III
			BOUL							2029.9	2030.0	1				III
			BOUL							2037.7	2039.9	1	2037.7	2039.9	1	IIIG
			HARV							2038	2040	2	2039		1	IIIGG
	2039	2400	CULG							2039	2400	1				IIIS
			CULG				2039	2400	1	2039	2400	1				IS
			CULG				2049	2342	1							IIIN
			CULG				2049	2050	1	2049	2050	1				IIIGG
			HARV				2049	2050	2	2049	2050	2				IIIGG
			HARV							2101	2102	1				IIIG
			HARV							2107	2110	3	2108		3	IIIGG
			CULG							2107	2108.5	2				IIIG
			HARV							2113	2117	2				IIIG
			CULG							2114.5	2115	2				IIIG
			BOUL							2133.4	2136.3	1	2133.4	2136.3	1	IIIG
			BOUL							2201.7	2201.9	1	2201.7	2201.9	1	III
			BOUL										2211.7	2211.8	1	III
			BOUL							2213.8	2214.2	1				III
			HARV							2214	2216	3	2215	2216	3	IIIG,V
			CULG							2214.5	2216	2				IIIG,V
			BOUL							2214.6	2216.1	2	2214.6	2216.1	2	III
			BOUL							2225.6	2229.4	1	2225.6	2229.4	1	IIIG
			CULG							2247	2248	2				IIIG,U
			HARV							2247	2248	1				IIIGG
			BOUL							2247.6	2248.4	2	2247.6	2248.4	2	IIIG
			CULG							2341	2345	2				IIIGG,V
			HARV							2341	2345	2				IIIGG
09	0000	0739	CULG				0000	0739	1	0000	0739	1				IS
			CULG							0013	0739	1				IIIN
			CULG							0118		1				IIIG
			CULG				0447	0454.5	1	0447.5	0455	2				IIIGG,V
			CULG							0459.5	0512.5	2			II	
			CULG							0654	0657.5	1				IIIGG
			CULG				0657									IIIB,W
			CULG				0702.5									IIIB,W
			CULG							0704	0704.5	2				IIIG
			CULG							0737	0738	2				IIIG,U
	0756	1505	WEIS							0804.1	0804.4	1				IIIB
			WEIS							0805.1	0805.5	1				IIIB
			WEIS							0810.2	0810.4	1				IIIB
			WEIS							0828.3	0828.5	1				IIIG
			WEIS							0947.1	0947.5	1				IIIB
			WEIS							0948.8	0949.6	1				IIIG
			WEIS							1051.4	1054.3	3				IIIG
			WEIS							1105.5	1105.6	1				IIIB
			WEIS							1110.6	1110.7	1				IIIB
	1218	2124	SGMR													
			WEIS							1250.1	1250.5	2				IIIB
			WEIS							1317.5	1319.7	1				IIIG
	1417	2352	HARV							1417	1506	1				IN
			HARV							1506	1728	1				I
			HARV				1506	2050	1							IN
			HARV							1618	1619	2				IIIG
	1430	2400	BOUL							1618.8	1621.2	1	1618.8	1621.2	1	IIIG
			BOUL							1620.0	2330.0	1	1620.0	2330.0	1	CONT
			HARV							1629	1630	1				IIIG
			HARV				1705		1	1705		1				IIIG
			HARV							1728	2248	1				IN
			HARV				1830	1831	1	1830	1831	1				IIIGG
			HARV							1857	1858	1				IIIG
			BOUL							1917.4	1917.7	2	1917.4	1917.7	2	III
			BOUL							1932.7	1933.0	2	1932.7	1933.0	2	III
	2039	2400	CULG				2039	2400		2039	2140					IN
			CULG							2041	2345.5					IIIN,W
			BOUL							2123.4	2123.5	1	2123.4	2123.5	1	III
			CULG				2203	2206	1							IIIGG
			HARV				2204	2206	1	2203	2206	1				IIIGG
10	0000	0739	CULG				0000	0421								IS,W
			CULG							0009	0739	1				IS

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JANUARY 1973

JAN 1973	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
10			CULG				0852.5	0854	1							IIIG
			CULG							0859	0739	1				IIIN
			CULG				0125	0126	1	0125	0126	1				IIIG
			CULG				0209.5	0210.5	1							IIIG
			CULG				0218.5	0219	1							IIIG
			CULG							0616.5	0619	1				IIIGG
	0752	1507	WEIS													
	1218	2125	SGHR													
	1430	2400	BOUL							1736.8	1738.7	2				IIIG
	1417	2353	HARV							1737	1739	3				IIIGG,U
			HARV							1745		2				IIIG,U
			HARV							1803	2104	2	1919	2104	2	IIIN
			BOUL							1803.4	1804.8	2	1803.4	1804.8	2	IIIG
			BOUL							1822.4	1822.4	1	1822.4	1822.4	1	III
			BOUL										1858.8	1859.2	2	III
			BOUL							1906.4	1906.8	2	1906.4	1906.8	2	III
			BOUL							1918.8	1919.3	2	1918.8	1919.3	2	III
			BOUL							2012.8	2012.6	2	2012.0	2012.6	2	IIIG
	2040	2400	CULG							2041.5		1				IIIB
			CULG				2049	2049.5	1	2049	2049.5	2				IIIG,V
			HARV							2049		3				IIIG
			BOUL							2049.1	2049.3	1				III
			CULG							2054	2055					IIIG,N
			CULG							2103	2104.5	1				IIIG,U
			BOUL							2103.7	2104.6	2	2103.7	2104.6	2	III
			HARV				2113	2114	1							IIIG
			CULG							2136						IIIB,N
			BOUL										2152.3	2154.2	1	IIIG
			CULG							2247						IIIB,N
11	0008	0728	CULG				0008	0009	1	0008	0009	1				IIIG
			CULG							0019.5	0021.5	1				IIIGG,V
			CULG							0022	0103					IIIN,N
			CULG							0023.5	0024	1				IIIG
			CULG				0037	0100	1						IV	
			CULG							0037	0041	1				V
			CULG				0037	0038.5	1	0037	0038.5	1				IIIGG
			CULG							0043	0107	1			IV	
			CULG				0043	0049	1	0043	0049	1				IIIGG
			CULG										0047	0110	1	S.W.F.
			CULG							0047	0101.5	2	0054.5	0056.5	1	II
			CULG							0048	0053	2	0048.5	0051.5	1	V
			CULG							0317.5						IIIB,N
			CULG							0630.5		1				IIIB
	0751	1242	WEIS							0945.0	0945.3	1				IIIG
			WEIS							1005.2	1005.3	1				IIIG
	1248	1509	WEIS													
	1217	2126	SGHR													
	1430	2400	BOUL							1532.4	1536.4	2	1532.4	1536.4	2	IIIGG
	1416	2353	HARV				1536		1	1532	1537	3	1533	1534	2	IIIGG
			BOUL							1632.3	1632.5	1	1632.3	1632.5	1	III
			HARV				1639	1644	1	1637	1644	1				I
			BOUL							1656.4	1700.2	2				IIIG
			HARV							1657	1700	1				IIIG
			HARV							1707		3	1707		3	IIIG
			BOUL							1707.2	1707.5	2	1707.2	1707.5	2	III
			SGHR										1707.3	1707.5	1	III
			BOUL							1710.1	1710.2	1	1710.1	1710.2	1	III
			BOUL							1713.6	1714.4	1				IIIG
			BOUL							1714.0	1718.4	3	1714.8	1718.4	3	III
			HARV				1715	1717	2	1714	1718	3	1715	1718	3	IIIGG,V
			SGHR										1715.3	1717.8	3	IIIG
			BOUL							1739.4	1740.0	1	1739.4	1740.0	1	IIIG
			HARV				1752	1757	1	1752	1757	2				IIIGG
			BOUL							1800.6	1810.3	3	1800.6	1810.3	3	III
			HARV				1801	1811	3	1800	1807	2	1801	1806	3	IIIGG,V
			SGHR										1801.2	1805.8	2	V
			HARV				1807	1810	2	1807.2	1822	3	1810.4	1824	3	II
			SGHR										1810.3	1814.2	3	IIIG
			BOUL							1810.3	1812.7	3	1810.3	1812.7	3	IIIGG
			BOUL							1811.1	1825.5	3	1811.1	1823.5	3	II
			BOUL							1813.0	1823.5	3	1813.0	1823.5	3	II
			SGHR										1813.6	1819.3	2	II
			BOUL							1815.2	1902.0		1815.2	1902.0	2	IV
			SGHR										1836.0	1954.8	1	CONT
			BOUL							1840.8	1841.2	2	1840.8	1841.2	2	III
			HARV							1841	1842	3				IIIG
			HARV							1842	1844	2	1842	1844	2	UNCL
			HARV							1848	1849	3	1848	1849	3	IIIG
			BOUL							1848.4	1849.2	2	1848.4	1849.2	2	III
			BOUL							1858.2	1858.9	2	1858.2	1858.9	2	III
			HARV				1859	1903	3	1857	1902	2	1858	1859	2	IIIGG
			BOUL							1900.2	1900.4	1	1900.2	1900.4	1	III
			HARV							1940	1941	3	1940	1941	3	IIIG
			BOUL							1940.5	1942.2	2	1940.5	1942.2	2	IIIG
			BOUL							2022.2	2022.4	1	2022.2	2022.4	1	III
	2042	2400	CULG							2053.5		1				IIIB
			HARV				2131	2136	2	2129	2133	2				IIIGG
			CULG				2131.5	2136	1	2129	2134	1				IIIGG
			CULG							2242.5	2244					IIIG,N

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JANUARY 1973

JAN. 1973	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
11			CULG				2317.5	2319.5	1	2318	2319.5	1				IIIGG
			HARV				2318	2341	2	2318	2341	2				IN
			CULG							2355.5	2358.5	1				IIIG
12	0000	0740	CULG							0002	0004	1				IIIG
			CULG							0056.5		1				IIIB,U
			CULG				0057.5	0058.5	1	0057.5	0058.5	1				IIIG
			CULG				0110	0111		0110	0111.5					IIIG,W
			CULG							0134.5	0138	1				IIIGG
			CULG							0140.5	0144	1				IIIG
			CULG				0447		1	0447		1				IIIB
			CULG							0449.5	0450.5	1				IIIG
			CULG							0551		1				IIIB,U
	0752	0809	WEIS													
	1217	2127	SGMR													
	1417	2353	HARV				1828	1944	1							IN
	1438	2400	BOUL							1839.3	1840.1	1	1839.3	1840.1	1	IIIG
	2041	2400	CULG				2118.5	2119	1							IIIG
			CULG				2155	2157	1							FASTDRIFT
13	0000	0740	CULG							0206.5	0208	1				IIIG
			CULG							0234.5	0235.5					IIIG,W
			CULG							0453	0454	1				IIIG
	0755	1509	WEIS													
	1217	2128	SGMR													
	1417	2353	HARV													
	1438	1709	BOUL													
	2124	2400	CULG													
14	0000	0740	CULG							0605.5	0606					IIIG,W
	0756	1107	WEIS							1031.8	1132.5	1				IIIG
	1116	1509	WEIS													
	1216	2129	SGMR													
	1416	2354	HARV													
	2041	2400	CULG													
15	0000	0736	CULG				0214	0214.5	1	0212.5	0216	1				IIIG
			CULG							0510.5		1				IIIB
			CULG							0544		1				IIIB
	0753	1510	WEIS													
	1125	2136	SGMR													
	1417	2355	HARV													
	2042	2400	CULG													
	1558	2400	BOUL							2241.9	2241.2	1	2240.9	2241.2	1	III
16	0000	0736	CULG							0659	0659.5	1				IIIG
	0753	1419	WEIS													
	1146	2132	SGMR													
	1425	1511	WEIS													
	1438	2400	BOUL													
	1417	2355	HARV				1818	1820	1	1817	1820	1				IIIGG
			HARV				1847		1	1847		1				IIIG
			HARV				1915	1916	1	1915	1916	2				IIIG
	2042	2051	CULG													
	2100	2400	CULG							2210.5	2211.5					IIIG,W
17	0000	0742	CULG							0021						IIIB,W
			CULG				0023	0024	1	0023	0024	2				IIIG
			CULG				0107									IIIB,W
			CULG				0155	0155.5								FASTDRIFT
			CULG							0455	0456	1				IIIG
			CULG				0549	0549.5	1	0549	0550	2	0549.5	0550	1	IIIG
			CULG							0550.5	0551					IIIG,W
			CULG							0628	0629	1				IIIG
	0753	1516	WEIS							0817.8	0818.7	2				IIIG
	1200	2132	SGMR													
	1400	2400	BOUL													
	1417	2355	HARV				1957	2122	2							IN
	2042	2400	CULG				2122	2122.5								FASTDRIF
18	0000	0742	CULG													
	0748	1106	WEIS													
	1145	1403	WEIS													
	1417	2356	HARV													
	1400	2400	BOUL										1525.7	1526.2	1	III
	1200	2134	SGMR										1951.0	1953.1	1	III
			SGMR										2007.8	2009.2	1	III
	2042	2400	CULG							2308	2308.5	1				IIIG
			BOUL							2308.2	2308.8	2	2308.2	2308.8	2	IIIG
			BOUL										2310.6	2310.7	1	III
19	0000	0743	CULG													
	0748	1118	WEIS													
	1133	1353	WEIS													
	1150	2135	SGMR													
	1411	1516	WEIS													
	1417	2356	HARV													
	1400	2400	BOUL										1705.8	1706.7	1	IIIG
	2043	2400	CULG													
			BOUL							2147.8	2400.0	1	2147.8	2400.0	1	IIIN

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JANUARY 1973

JAN. 1973	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
20	0000	0743	CULG													
	0758	1516	WEIS													
	1146	2137	SGMR													
	1417	2358	HARV													
	1408	2400	BOUL													
	2043	2400	CULG										1512.1	1512.9	2	III
21	0000	0743	CULG													
	0748	1516	WEIS													
	1143	2139	SGMR													
	1417	2358	HARV													
	1700	2400	BOUL													
	2042	2111	CULG				2056	2058.5		2055.5	2057					IIIG,W
	2135	2400	CULG													
22	0000	0743	CULG													
	0000	0838	BOUL													
	0749	0901	WEIS													
	0928	1526	WEIS													
	1143	2133	SGMR													
	1400	2400	BOUL													
	1417	2358	HARV													
	2044	2400	CULG													
23	0000	0743	CULG													
	0000	0830	BOUL													
	0742	1527	WEIS													
	1152	2140	SGMR													
	1400	2400	BOUL													
	1417	2358	HARV													
	2045	2400	CULG													
24	0000	0744	CULG													
	0000	0830	BOUL													
	0742	1415	WEIS													
	1150	2141	SGMR													
	1416	2359	HARV													
	1419	1530	WEIS													
	1538	2400	BOUL													
	2045	2400	CULG													
25	0000	0744	CULG													
	0000	0830	BOUL													
	0741	1531	WEIS													
	1149	2143	SGMR													
	1402	2400	HARV													
	2045	2400	CULG													
26	0000	0744	CULG													
	0742	1533	WEIS													
	1214	2144	SGMR													
	1402	2400	HARV													
	2045	2400	CULG													
	2145	2400	BOUL													
27	0000	0830	BOUL													
	0000	0155	CULG													
	0203	0745	CULG													
	0742	1111	WEIS													
	1144	2145	SGMR													
	1158	1530	WEIS													
	1400	2400	BOUL													
	1402	2400	HARV													
	2045	2400	CULG													
28	0000	0745	CULG													
	0000	0830	BOUL													
	0743	1534	WEIS													
	1144	2146	SGMR													
	1400	1500	BOUL													
	1402	2400	HARV													
	1800	2400	BOUL													
	2045	2400	CULG													
29	0000	0745	CULG													
	0000	0830	BOUL													
	0743	1534	WEIS													
	1145	2146	SGMR													
	1400	1700	BOUL													
	1402	2400	HARV													
	2000	2400	BOUL													
	2045	2400	CULG													
30	0000	0745	CULG													
	0000	0830	BOUL													
	0744	0850	WEIS													
	0855	1536	WEIS													
	1206	2149	SGMR													
	1400	2400	BOUL													
	1402	2400	HARV													

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

JANUARY 1973

JAN. 1973	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
30	2045	2400	CULG													
31	0000	0745	CULG													
	0000	0030	BOUL													
	0735	1537	WEIS													
	1138	2151	SGMR													
	1400	2400	BOUL													
	1402	2400	HARV													
	2047	2400	CULG													

The symbols used in connection with the spectral type in describing the important bursts are as follows:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of bursts
C = Underlying continuum (particularly with type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity

SELECTED SOLAR EVENTS

JANUARY 1973

Note: Selected solar events from Culgoora was not received in time for publication. It will be published in next month's issue.

COSMIC RAY INDICES
(Neutron Monitors)

JANUARY 1973

Jan. 1973	CHURCHILL DAILY AVERAGE COUNTS PER HOUR	DEEP RIVER DAILY AVERAGE COUNTS PER HOUR	CALGARY DAILY AVERAGE COUNTS PER HOUR	SULPHUR MT. DAILY AVERAGE COUNTS PER HOUR	CLIMAX DAILY AVERAGE COUNTS PER HOUR	DALLAS DAILY AVERAGE COUNTS PER HOUR
1	data not available at time of publication	data not available at time of publication	11818.8	8778.8	data not available at time of publication	6320.7
2			11781.5	8849.4(22)		6349.6
3			11967.7	-- (0)		6362.3
4			11904.8	8892.2(4)		6349.0
5			11892.5	8877.6(23)		6342.3
6			11955.5	8906.4		6383.1
7			11999.4	8933.5		6379.2
8			12030.0	-- (0)		6402.0
9			11986.3	-- (0)		6379.4
10			11841.9	-- (0)		6333.0
11			11794.4	8802.6(8)		6321.0
12			11781.0	8789.1		6320.0
13			11780.7	8787.2		6321.1
14			11829.8	8808.4		6331.0
15			11851.7	8860.1		6340.3
16			11900.9	8908.3		6358.3
17			11945.3	8923.7		6367.5
18			12047.0	8988.0		6392.7
19			11968.8	8967.2(20)		6390.1
20			11630.3	8670.1		6274.8
21			11564.7	8610.0		6290.3
22			11567.6	8590.5		6233.0
23			11544.8	8561.1		6231.7
24			11552.0	8629.6		6233.1
25			11559.7	8635.7		6229.0
26			11646.6	8671.5		6237.0
27			11672.9	8663.9		6255.9
28			11691.4	8687.3		6307.4
29			11754.0	8766.6		6327.0
30			11805.2	8838.0		6348.9
31			11876.7	8892.8		6364.3

( ) Number of hours for which data are available if less than 24 (or number of section hours if less than 40 for Climax).

Churchill and Dallas Super Neutron Monitors, Scaling Factors 120.

Deep River Super Neutron Monitor, Scaling Factor 300.

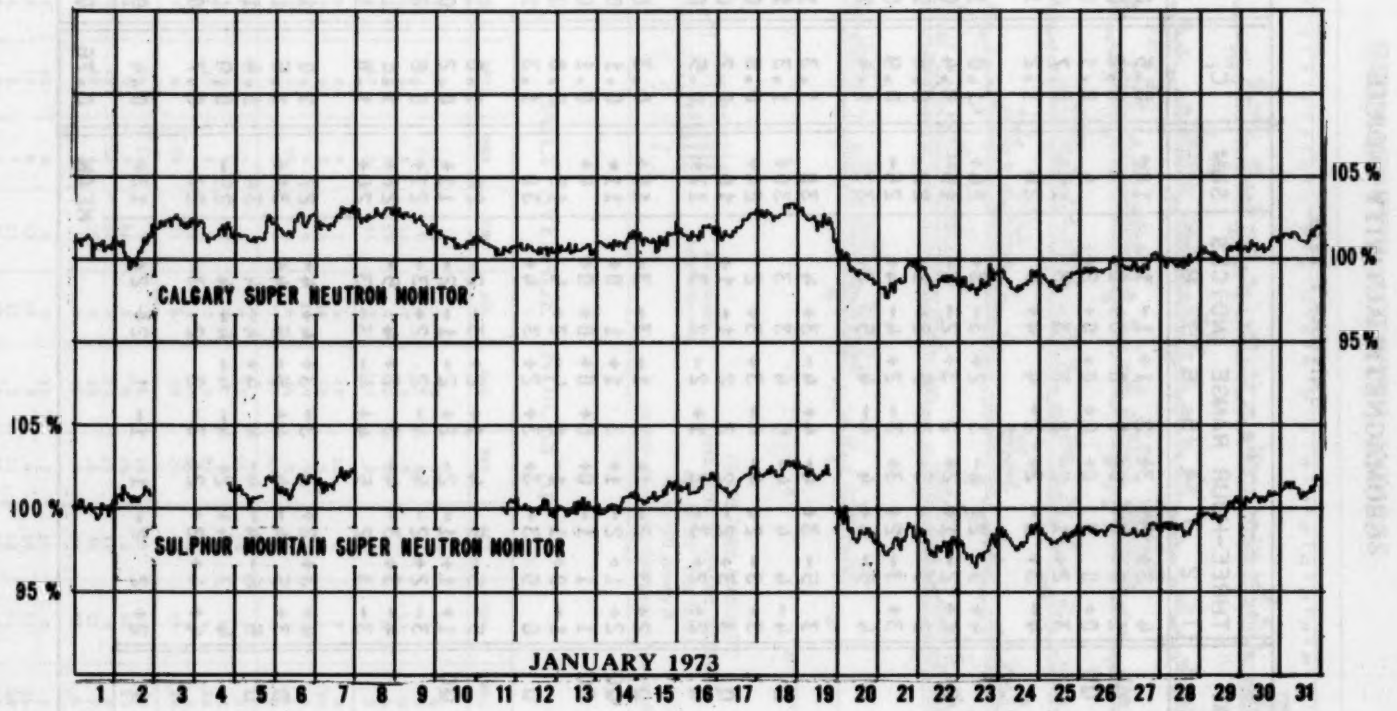
Calgary and Sulphur Mountain Super Neutron Monitors, Scaling Factors 100.

Climax IGC Station B305, Scaling Factor 100.

COSMIC RAY INDICES

(Pressure Corrected Hourly Totals)

JANUARY 1973

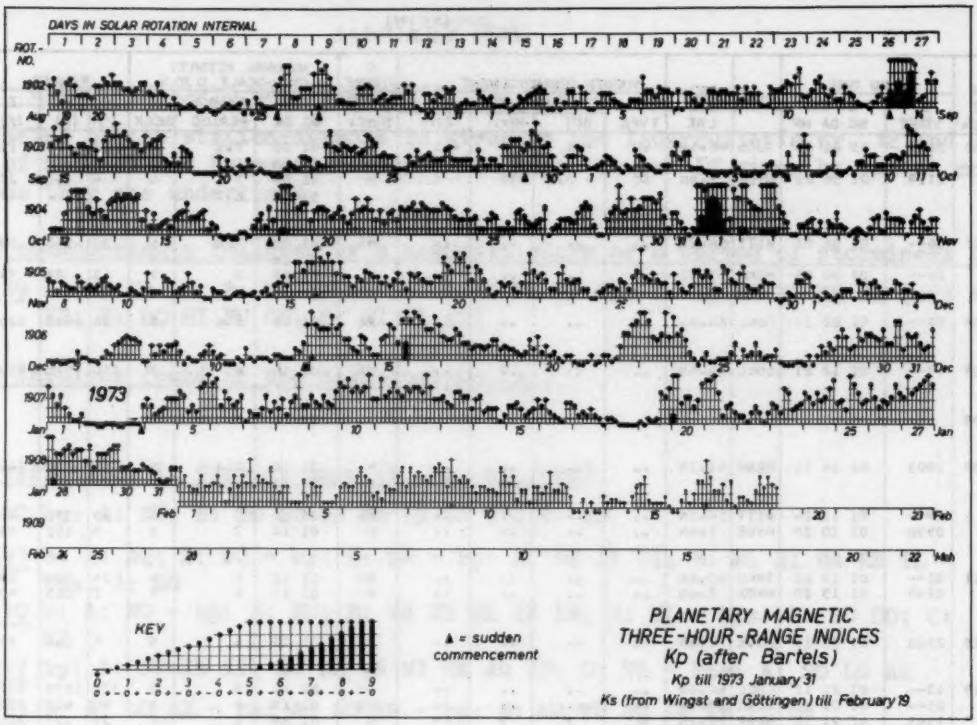


GEOMAGNETIC ACTIVITY INDICES

JANUARY 1973

DAY		K_p THREE-HOUR RANGE INDICES 1	2	3	4	5	6	7	8	SUM	C_i	C_p	A_p
1		4	3+	2+	3+	2	1+	1-	1-	18-	0.5	0.6	11
2	QQ	1+	0+	0+	0+	0	0	0+	0+	3	0.0	0.0	2
3	QQ	0+	0	0	0+	0+	0+	0+	2+	4	0.1	0.0	2
4		3	2+	1+	2-	2	3	3	3	19+	0.7	0.6	11
5		4-	3+	2-	2+	2-	4	4+	5	26	1.2	1.1	21
6		4+	5-	2+	4-	3	2+	3-	3+	26+	1.0	1.0	20
7	Q	1-	2-	1+	2+	2	3+	2-	3-	15-	0.4	0.4	8
8		2	3	1+	3-	3+	5	2+	2+	22	0.8	0.9	15
9		3+	3-	2+	3+	3-	2+	4-	4+	25-	0.9	0.9	16
10	D	4	5-	4-	4	4-	4	5	3	32	1.4	1.2	28
11		3	5-	3+	4-	4+	4-	3+	4	30	1.3	1.2	24
12	D	4-	4	4	4-	5	4	3	3	30+	1.3	1.2	25
13		3+	3-	2+	4-	4-	3+	3+	2	24+	0.8	0.9	16
14	Q	3	3+	2-	2	2	2	1-	1+	16	0.2	0.5	8
15	Q	2+	2+	3-	2	1+	2-	2	3	17+	0.5	0.5	9
16	Q	2+	3	2-	1+	1	1-	3-	3-	15+	0.3	0.4	8
17	QQ	2+	1+	2-	1+	2	1+	1	0+	11+	0.1	0.2	5
18	QQ	1	1	1-	0+	0+	0+	0+	0+	4+	0.1	0.0	3
19		1-	0+	1	1-	1	4-	3+	4	15-	0.8	0.6	10
20	D	6	5	3-	3+	3+	2+	3	4+	30	1.3	1.3	29
21		5-	5-	5	4-	1+	2+	3-	2-	26	1.0	1.1	22
22	QQ	1+	1+	1-	2-	2+	2-	1-	2-	11+	0.2	0.2	5
23		3-	2+	2-	4	4-	2	2+	3-	21+	0.8	0.7	13
24		4-	3+	3-	4-	3	3+	4	5-	28+	1.1	1.1	22
25		3-	3	2	5	4+	4-	3-	3	26+	1.0	1.0	20
26		4+	3+	2+	3	3-	3+	4+	4-	27	1.0	1.0	20
27	D	3+	5	4-	4	4+	5-	5	4+	34+	1.5	1.3	33
28	D	5	6-	4-	4-	4	4+	4-	4	34	1.4	1.3	33
29		4	3	4+	2+	4-	4-	4-	4	29-	0.9	1.1	22
30		4+	4+	2+	2+	3-	2	2	3-	23-	0.7	0.8	15
31	Q	2+	2	2-	1	1-	1	2+	2+	13+	0.4	0.3	6
										MEAN	0.76	0.75	16

GEOMAGNETIC ACTIVITY INDICES



DAILY AVERAGE INDICES Ap

DAY	1972 FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1973 JAN
1	7	8	17	18	6	5	10	5	7	98	6	11
2	13	10	11	18	6	7	5	6	5	42	5	2
3	9	16	4	7	12	7	5	5	4	13	6	2
4	9	8	17	5	13	4	132	6	7	6	4	11
5	6	5	17	6	11	3	182	5	2	3	2	21
6	6	26	8	9	7	4	87	10	2	7	3	28
7	8	45	8	3	8	10	20	5	8	7	10	8
8	7	12	6	4	6	10	9	9	4	7	6	15
9	4	10	3	14	4	6	74	8	4	7	4	16
10	10	3	5	9	4	7	18	15	6	4	2	28
11	7	7	6	7	4	6	17	11	19	7	3	24
12	4	3	10	9	3	7	7	5	21	6	8	25
13	22	7	12	8	4	3	5	53	21	4	30	16
14	15	4	7	7	10	3	9	54	26	4	9	8
15	13	5	6	38	11	6	18	24	8	17	29	9
16	8	20	6	18	8	8	6	19	12	31	33	8
17	22	16	6	9	62	8	6	26	2	12	13	5
18	12	11	24	10	126	5	13	14	11	9	8	3
19	14	5	10	4	19	8	14	6	34	11	7	10
20	12	5	8	4	9	5	15	4	14	27	4	29
21	9	5	19	4	5	3	15	2	16	9	2	22
22	4	10	10	5	12	10	8	4	13	13	14	5
23	6	8	8	7	11	10	3	13	18	11	30	13
24	33	20	5	5	14	17	2	16	11	5	13	22
25	18	8	3	5	6	33	5	6	6	8	4	28
26	6	10	3	8	10	17	18	7	8	14	5	28
27	4	19	7	8	17	9	25	8	7	11	2	33
28	6	11	22	22	13	5	8	8	11	12	4	33
29	2	22	42	10	11	4	8	25	21	9	15	22
30		27	17	14	3	4	6	8	28	4	19	15
31		15		12		6	7		29		13	6
MEAN	10	12	11	10	14	8	24	13	12	14	10	16

PRINCIPAL MAGNETIC STORMS

JANUARY 1973

DATE 1973 MO DA	STORM TIME UT START	STORM TIME UT END MO DA HR	OBS	GEO-MAG LAT.	SUDDEN COMMENCEMENT TYPE	SUDDEN COMMENCEMENT AMPLITUDES D(')	H(γ)	Z(γ)	C FIGURE DEGREE OF ACTIVITY	MAXIMAL ACTIVITY ON K-SCALE 0 TO 9 MO DA	3-HOUR PERIOD	K INDEX	RANGES D (')	H (γ)	Z (γ)	STORM NUMBERS
01 03	2119	01 06 23	TUCS	40.4N	SC	+ 1	+ 9	+ 1	M	01 05	7.8	5	10	90	10	1
										01 06	1	5				1
	2118	01 06 23	HYDE	7.6N	SC	- 0.4	+15	- 1	M	01 04	7	4	4	132	27	1
										01 05	6.7					1
01 05	16--	01 06 05	WITT	54.1N	..	..	..	..	MS	01 05	7.8	5	25	160	50	1
										01 06	1	5				1
	16--	01 06 06	HRMN	33.3S	..	..	..	..	M	01 05	8	5	13	84	78	1
01 08	08--	01 08 21	COLL	64.6N	..	..	..	..	MS	01 08	5.6	6	56	940	300	2
01 09	07--	01 12 21	COLL	64.6N	..	..	..	..	MS	01 10	4	7	240	1510	850	3
01 09										01 12	5	7				
01 09	1903	01 14 11	NEWP	55.1N	..	..	..	..	M	01 10	2.4	5	46	139	140	3
										01 11	2					3
										01 12	5					3
	19--	01 12 24	WITT	54.1N	..	..	..	..	MS	01 10	7	6	35	155	40	3
	0530	01 10 20	HYDE	7.6N	..	..	..	..	M	01 10	7	5	5	102	23	3
01 11	02--	01 13 22	IRKU	40.8N	..	..	..	..	MS	01 12	5	6	24	104	29	3
	0245	01 13 20	HYDE	7.6N	..	..	..	..	M	01 11	6	5	5	115	40	3
01 18	2320	01 21 19	HYDE	7.6N	..	..	..	..	M	01 19	6	5	5	146	27	4
01 19	15--	01 21 12	COLL	64.6N	..	..	..	..	MS	01 21	3	7	171	1270	900	4
	15--	01 21 12	SITK	60.0N	..	..	..	..	MS	01 25	4	6	90	410	360	4
	1545	01 21 11	NEWP	55.1N	SC	3	9	--	M	01 20	1	5	25	117	121	4
										01 21	3					4
	15--	01 21 08	WITT	54.1N	..	..	..	..	MS	01 20	1	6	40	105	55	4
	1530	01 21 19	IRKU	40.8N	SC	7.7	11	1	M	04 20	7	6	20	102	33	4
	15--	01 21 11	TUCS	40.4N	..	..	..	..	M	01 20	1.2	5	10	150	10	4
										01 21	3	5				4
	1545	01 21 11	HONO	21.1N	SC	- 0	+06	+02	M	01 19	8	5	7	123	27	4
										01 20	1					4
	15--	01 20 14	HRMN	33.3S	..	..	..	..	M	01 19	6	5				4
										01 20	1	5	19	80	61	4
	15--	01 20 15	GNAN	43.2S	..	..	..	..	M	01 20	1	5	13	100	100	4
01 23	0205	01 24 22	HYDE	7.6N	SC	- 0.2	+ 7	0	M	01 23	4	5	3	133	31	5
	00--	01 25 18	PMOR	18.6S	..	..	..	..	M	01 23	4	5	7	130	80	5
01 25	0345	01 26 22	HYDE	7.6N	SC	- 0.1	+ 8	- 1	M	01 25	4	5	3	82	27	6
										01 26	7					6
01 26	0928	01 30 04	NEWP	55.1N	..	..	..	..	MS	01 27	2	6	45	153	108	7
										01 28	2					7
	17--	01 30 05	WITT	54.1N	..	..	..	..	MS	01 26	7	6	30	175	65	7
										01 27	7	6				7
	04--	01 30 05	TUCS	40.4N	..	..	..	..	M	01 27	2.6.7	5	17	120	10	7
										01 28	1.2	5				7
										01 30	2	5				7
01 27	03--	01 30 16	COLL	64.6N	..	..	..	..	MS	01 27	6	7	171	1760	810	7
	03--	01 30 14	SITK	60.0N	..	..	..	..	MS	01 27	5.6	6	60	440	350	7
	04--	01 30 05	FRED	49.6N	..	..	..	..	M	01 26	6	5				7
										01 27	1.2	5	29	182	43	7
										01 30	2	5				7
	04--	01 30 10	BOUL	49.0N	..	..	..	..	MS	01 27	2	6	30	150	50	7
										01 28	2	6				7
	03--	01 28 23	IRKU	40.8N	..	..	..	..	MS	01 27	6	6	19	153	31	7
	0340	01 28 06	SJUA	29.9N	..	..	..	..	M	01 28	1.2	5	11	80	42	7
	0330	01 28 23	HYDE	7.6N	..	..	..	..	M	01 27	6.7	5	4	103	22	7
	03--	01 30 15	PMOR	18.6S	..	..	..	..	M	01 27	2	5	9	90	50	7
										01 28	2	5				7
	03--	01 28 22	HRMN	33.3S	..	..	..	..	M	01 27	7	5				7
										01 28	1	5	22	91	99	7
	03--	01 30 16	GNAN	43.2S	..	..	..	..	MS	01 27	7	6	18	110	80	7
	0400	01 29 06	KGLN	57.3S	..	..	..	..	MS	01 27	7	6	--	--	--	7
										01 28	1	6				7

Reports were received from the following observatories:

College Sitka, Newport Witteveen, Fredericksburg Boulder, Irkutsk Tucson, San Juan Honolulu, Hyderabad Guam, Apia Port Moresby, Hermanus Gnangara, Amberley Port-aux-Francais

SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

JANUARY 1973

PRELIMINARY REPORT ON RAPID MAGNETIC VARIATIONS (by Dr. A. Romaña)

The meaning of the station-symbols is given in the IAGA-Bulletin nr. 12 and 32. Times of ssc, si and bay-commencements are mean values. If given by ten or more stations they are underlined.

Sudden commencements followed by a magnetic storm or a period of storminess (ssc)

03 2119 A: LG HU LM; B: MA VI AQ IK AE KS PM PP TN; C: ES WN NI EB SZ (si: A: FR; B: DO SI FU GN; C: WI TL KA)

Sudden impulses found in the magnetograms (si)

none

Rapid variations in form of bays (b, bs, bp, bps)

07 1540 bp: A: NU; B: SO DO WN MA IK KA GN; C: EB

08 1541 b: A: AQ; B: DO - bs: A: NU - bp: A: WN IK CI; B: WI NI MA EB TL - bps: A: SO

15 2210 b: A: NU - bp: A: FU; B: WN WI MA IK EB; C: TL - bps: B: SO DO; C: NI

15 2247 bp: A: NU IK CI; B: ES WN WI MA AQ EB; C: TL - bps: A: SO LG AE

31 1951 b: A: LG AE - bs: A: SO KS - bp: B: MA FU AQ IK EB TL LM

Giant pulsations (pg)

11 1355 - 1600 FUA
- 1655 CIA

12 1452 - 1645 CIA

Solar-flare effects (sfe)

Effects confirmed by ionospheric or solar observations are underlined.

01 1050 - 1110 SZ

02 1843 - 1852 HU

14 0911 - 0921 SZ

15 1639 - 1649 SZ

17 0857 - 0905 SZ

RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

North Atlantic — JANUARY 1973

JAN. 1973	WHOLE DAY INDICES NORTH ATLANTIC	ADVANCE FORECASTS (JC-REPORTS) FOR WHOLE DAY	NORTH ATLANTIC 6-HOURLY QUALITY FIGURES 00 TO 06	06 TO 12	12 TO 18	18 TO 24	SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF 02	08	14	20	GEOMAGNETIC INDICES K_{FR} HALF DAY (1)	(2)	A_{FR} OBSERVED
01	6+	6	6-	6+	7o	6+	5	5	5	5	3	1	8
02	7-	6	6+	6+	7o	6+	5	5	6	6	1	0	1
03	6+	6	6o	6+	6+	6o	6	6	6	7	0	1	2
04	6+	7	6o	6+	6+	6+	7	6	6	7	2	2	8
05	6+	7	7-	6o	7-	6o	7	5	5	6	3	3	17
06	6+	7	6o	6+	7-	6o	6	5	5	5	(4)	2	17
07	6+	7	6+	7-	6+	6o	5	5	5	6	1	2	5
08	6+	6	6o	6o	7-	6+	6	5	6	5	2	3	11
09	6+	6	6-	6+	7-	6o	5	5	5	6	3	3	13
10	6o	6	6-	6-	6+	6+	5	5	5	5	(4)	3	21
11	6o	5	6o	5o	7o	6+	5	4	5	5	(4)	3	18
12	6o	5	6-	6+	6o	6-	5	5	5	6	(4)	3	20
13	6-	6	6-	5+	6o	6-	5	5	5	6	3	3	12
14	7-	6	7-	6+	7-	6+	5	5	5	5	3	2	8
15	6+	6	6+	6o	6+	6+	5	5	6	6	2	2	7
16	6+	7	6+	6+	6+	6+	6	6	6	6	2	2	6
17	6+	7	7-	6o	6o	6o	6	6	6	6	2	1	3
18	6+	6	7-	7-	6o	6-	6	6	6	7	1	1	2
19	6o	6	6-	5+	7-	6+	6	6	6	6	1	3	9
20	6-	6	5+	5-	6+	6-	6	5	5	5	(4)	3	20
21	6-	6	5-	5+	6+	6-	5	5	5	5	(4)	1	14
22	6-	7	6-	5o	6o	6o	5	5	5	6	1	1	4
23	6+	7	6+	6o	7-	6-	6	6	6	6	2	2	10
24	6+	7	6o	6+	7-	6o	6	5	6	6	3	3	17
25	6-	6	6o	5+	6-	6o	5	5	5	5	3	3	15
26	6+	6	6o	6+	7-	6+	5	5	5	6	3	3	16
27	6o	6	6-	6o	6+	6o	6	5	5	5	3	(4)	25
28	6-	6	6-	5+	7o	5+	4	4	5	5	(4)	3	25
29	6-	6	5+	5+	6-	6-	4	5	5	6	3	3	14
30	6o	6	5+	6-	6+	7-	5	5	5	6	3	2	14
31	6+	6	6+	5+	7o	6o	5	6	6	6	2	1	4

RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

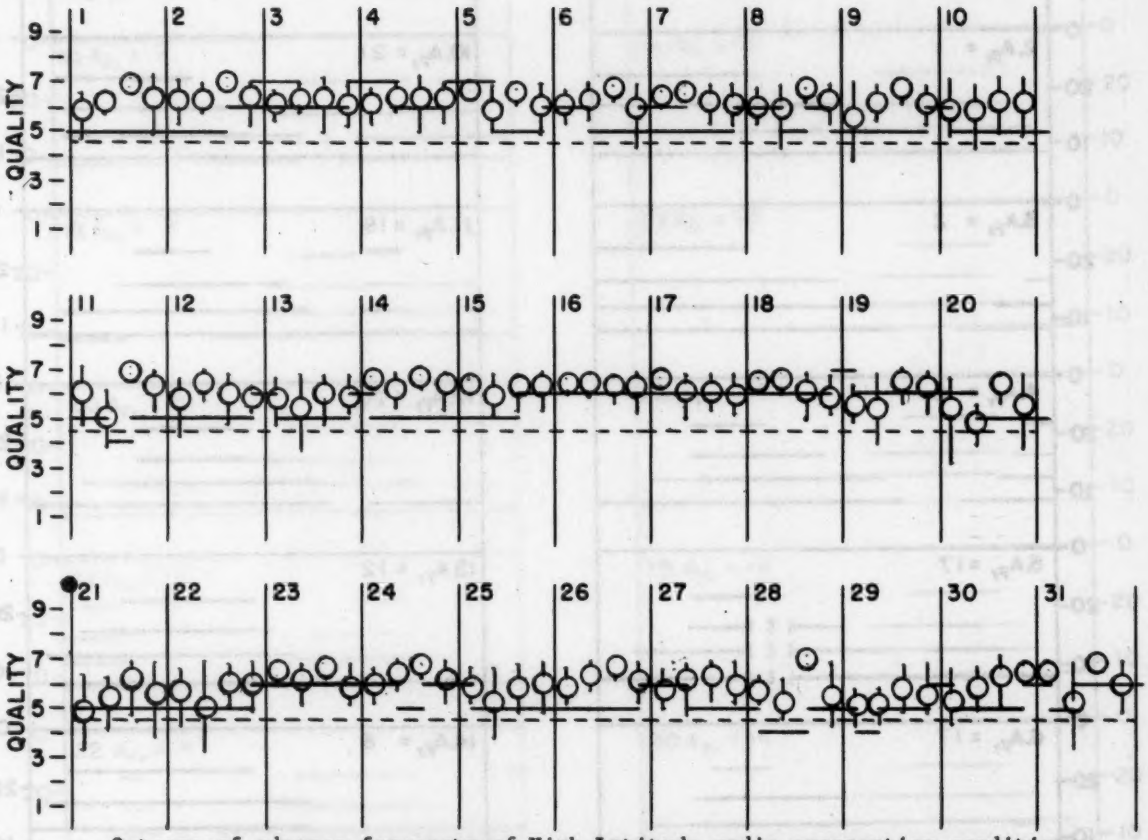
JANUARY 1973

North Atlantic

– Short term forecast
o Quality figure

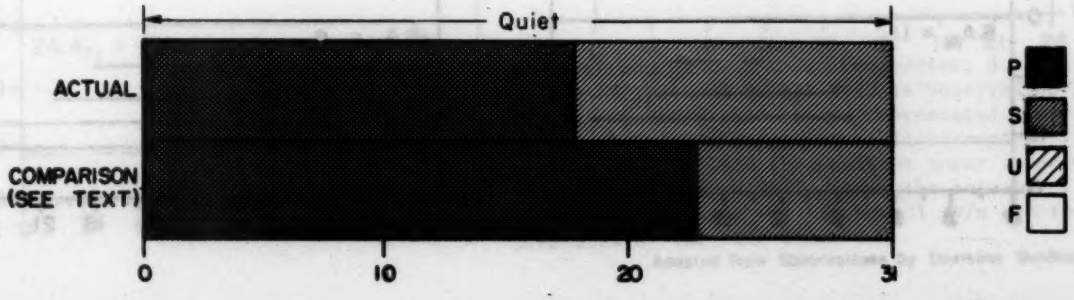
1 range of reports

Day



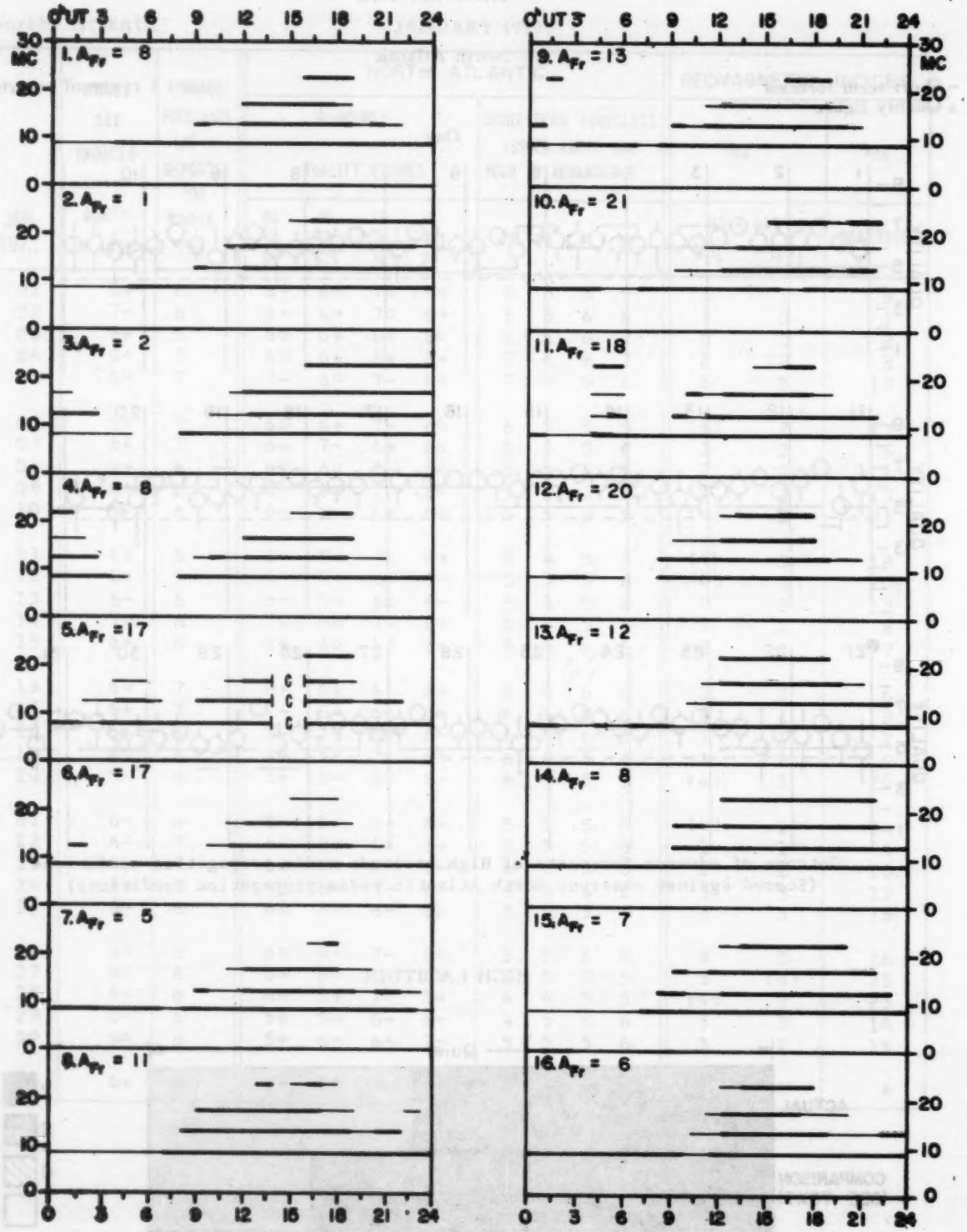
Outcome of advance forecasts of High Latitude radio propagation conditions
(Scored against observed North Atlantic radio propagation conditions)

HIGH LATITUDE



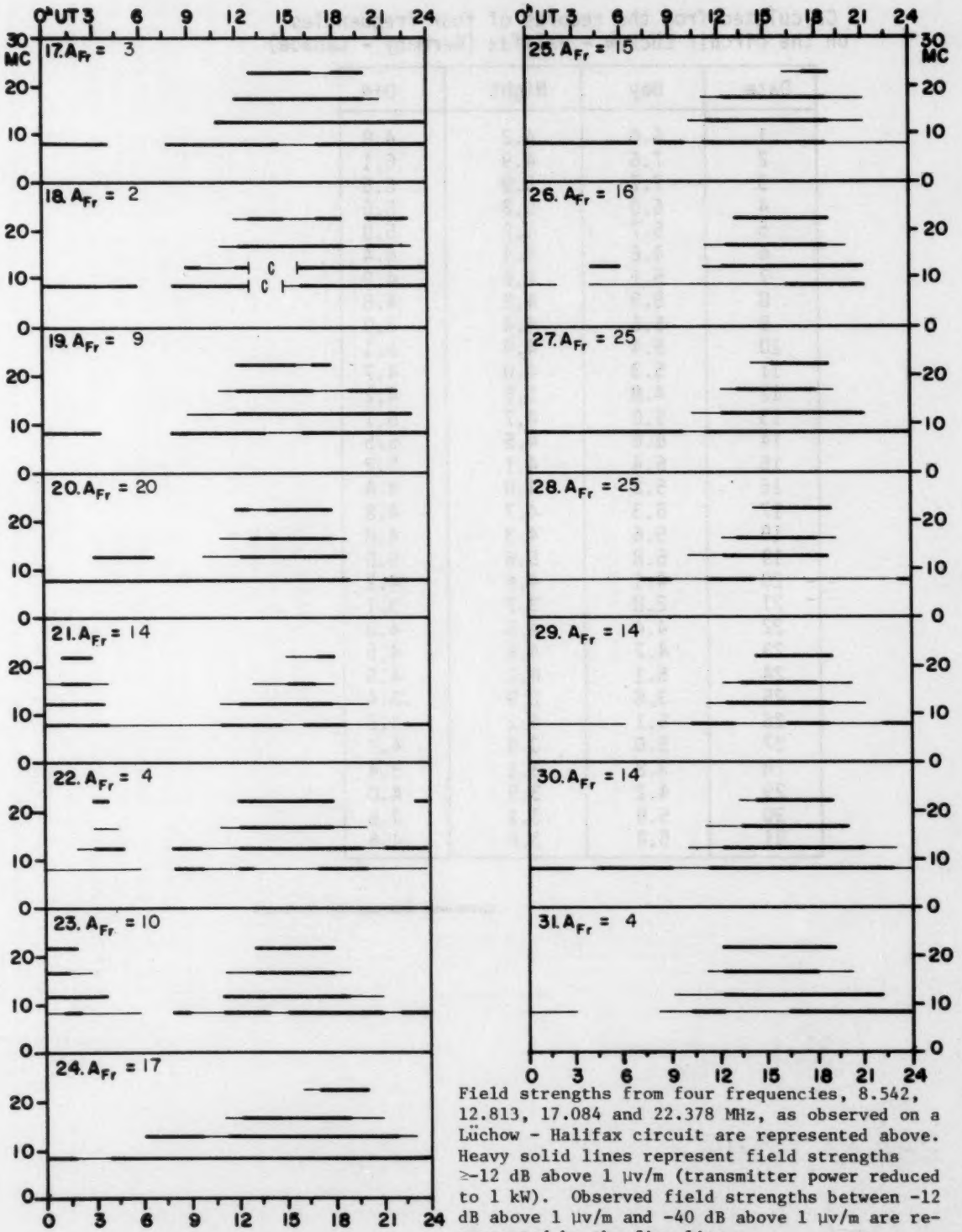
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

JANUARY 1973



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

JANUARY 1973



Field strengths from four frequencies, 8.542, 12.813, 17.084 and 22.378 MHz, as observed on a Lüchow - Halifax circuit are represented above. Heavy solid lines represent field strengths ≥-12 dB above 1 μv/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μv/m and -40 dB above 1 μv/m are represented by the fine line.

Adopted from Observations by Deutsche Bundespost

RADIO PROPAGATION QUALITY INDICES

JANUARY 1973

Calculated from the records of four frequencies
on the circuit Lüchow - Halifax (Germany - Canada)

Date	Day	Night	D+N
1	5.6	4.2	4.9
2	7.6	4.9	6.1
3	7.7	5.9	6.6
4	6.0	5.3	5.6
5	5.7	4.2	5.0
6	4.6	4.4	4.4
7	5.1	4.6	4.8
8	5.5	4.2	4.8
9	5.6	4.4	5.0
10	5.4	4.9	5.1
11	5.3	4.0	4.7
12	4.8	3.5	4.2
13	5.8	4.7	5.1
14	6.6	4.5	5.5
15	6.4	4.1	5.2
16	5.2	4.0	4.4
17	5.3	4.7	4.8
18	5.6	4.3	4.8
19	5.8	5.6	5.5
20	4.1	4.6	4.2
21	2.8	3.7	3.1
22	4.4	4.5	4.3
23	4.7	4.5	4.5
24	5.1	4.2	4.6
25	3.8	2.9	3.4
26	5.1	4.2	4.6
27	5.0	3.4	4.2
28	3.8	3.1	3.4
29	4.2	3.9	4.0
30	5.9	3.1	4.6
31	5.4	3.6	4.5

USCOMM-NOAA-ASHEVILLE,NC-3-30-73-1125

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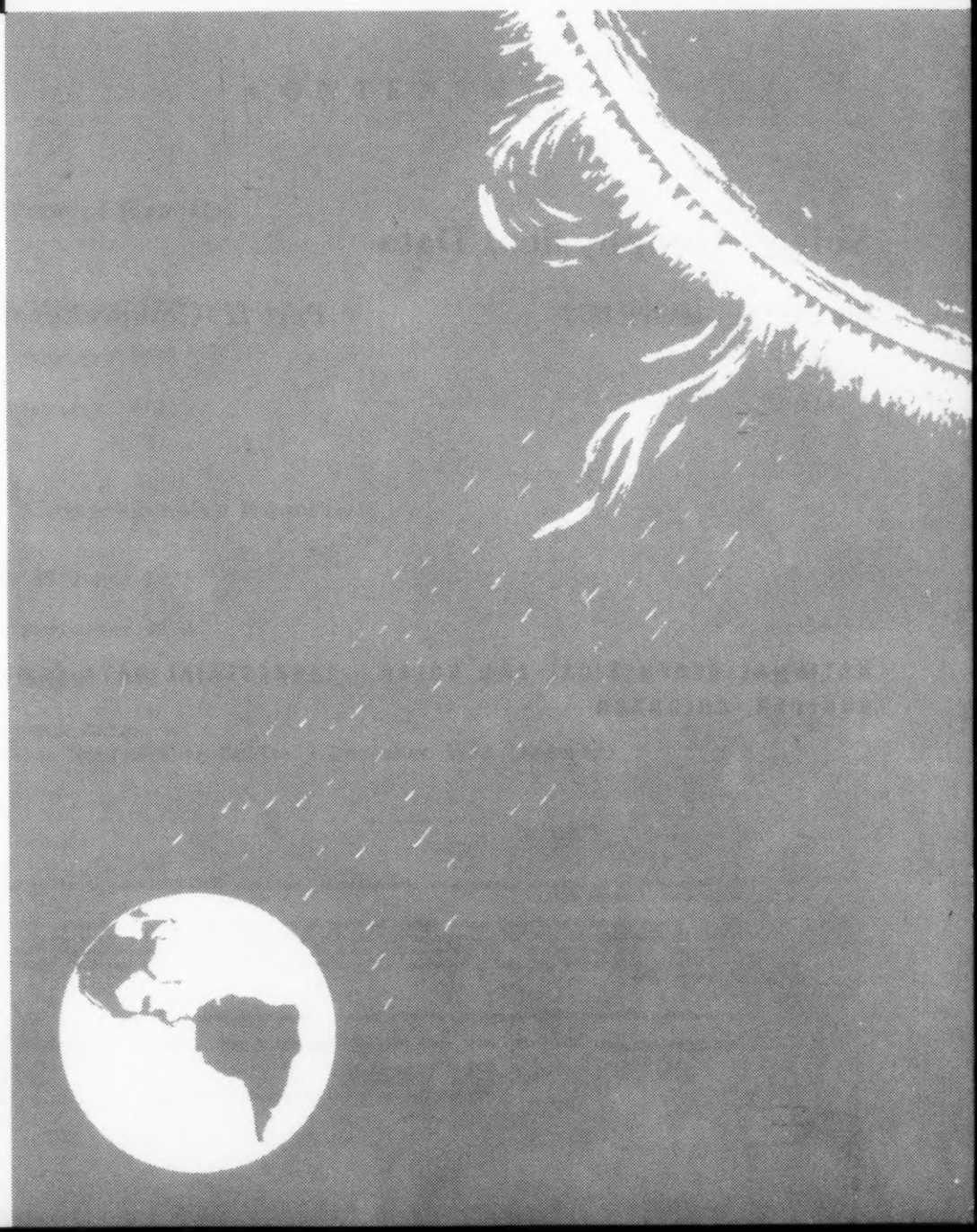
SOLAR-GEOPHYSICAL DATA
(comprehensive reports)

U. S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Data Service

MARCH 1973



NUMBER 343-PART II
DATA FOR
SEPTEMBER 1972
AUGUST 1972
& MISCELLANEA

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Solar - Geophysical Data

NO. 343 MARCH 1973

Part II (Comprehensive Reports)

DATA FOR
SEPTEMBER 1972
AUGUST 1972
& MISCELLANEA

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BOULDER, COLORADO

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* * * * *

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*CRPL-FB 135 through 269
IER-FB 270 through 298
299 Part I or 299 Part II to number of current issue.

SOLAR - GEOPHYSICAL DATA

No. 343

Issued in two parts

Hope I. Leighton, Editor

J. Virginia Lincoln, Director
Solar - Terrestrial Data Services Division

CONTENTS

Part I (Prompt Reports)

	Page
Index for 1972 and 1973	2
Data for February 1973	3-19
Data for January 1973	21-114

Part II (Comprehensive Reports)

Index for 1972 and 1973	2
Data for September 1972	3-56
Data for August 1972	57-65
Miscellaneous Data Neutron Monitors -- Dallas - December 1972 (Addenda)	67-69

INDEX FOR 1972 - 1973 DATA PUBLISHED IN "SOLAR-GEOPHYSICAL DATA"

		1972 Aug	Sep	Oct	Nov	Dec	1973 Jan	Feb
A.	Solar and Interplanetary Phenomena							
A.1	Sunspot Drawings	338	339	340	341	342	343	
A.2a	Zürich Provisional Relative Sunspot Numbers R_Z	337	338	339	340	341	342	343
A.2b	Zürich Final Sunspot Numbers R_Z	343	343	343	343	343		
A.2c	American Relative Sunspot Numbers R_A'	337	338	339	340	341	342	343
A.3a	Mt. Wilson Magnetograms	338	339	340	341	342	343	
A.3b	Mt. Wilson Magnetic Characteristics of Sunspots	338	339	340	341	342	343	
A.4	Hα Spectroheliograms	338	339	340	341	342	343	
A.5	Calcium Plage Drawings - McMath (or Catania)	338	339	340	341	342	343	
A.5a	Calcium Plage (McMath) and Sunspot Regions	338	339	340	341	342	343	
A.5b	McMath Daily Calcium Plage Index	338	339	340	341	342	343	
A.7b	Coronal Line Emission	338	339	340	341	342	343	
A.7c	White-Light Corona (NRL OSO-7, 1971-083A)	338	339	340	341	342	343	
A.7d	Solar EUV Spectroheliogram Fe XV 284 Å (GSFC OSO-7, 1971-083A)	338	339	340	341	342	343	
A.7e	Solar XUV Coronograms (NRL OSO-7, 1971-083A)			340	341	342	343	
A.8aa	2800 MHz - Daily Values of Solar Flux (ARO-Ottawa)	337	338	339	340	341	342	343
A.8ac	2800 MHz - Daily Values of Adjusted Solar Flux (ARO-Ottawa)	337	338	339	340	341	342	343
A.8g	15400, 8800, 4995, 2695, 1415, 606, 410, 245 MHz Adj. Solar Flux (AFCRL)	337	338	339	340	341	342	343
A.9a	9.1 cm Radio Maps of the Sun (Stanford)	338	339	340	341	342	343	
A.9b	21 cm Radio Maps of the Sun (Fleurs)	338	339	340	341	342	343	
A.9c	8.6 mm Radio Maps of the Sun (Prospect Hill)	338	339	340	341	342	343	
A.10a	169 MHz - Interferometric Observations (Nançay)	337	338	340	340	341	343	
A.10c	21 cm East-West Solar Scans (Fleurs)	337	338	339	340	341	342	343
A.10d	43 cm East-West Solar Scans (Fleurs)	337	338	339	340	341	342	343
A.10e	10.7 cm East-West Solar Scans (Ottawa-ARO)	337	338	339	340	341	342	343
A.11aa	Solar X-ray Radiation (Explorer 37 or 44)	338	339	340	341	342	343	
A.11ab	Solar X-ray Radiation (Explorer 37 or 44) Graphs	342	343					
A.11e	Solar X-ray Spectroheliograms (OSO-5)	338	339	340	342	343		
A.11f	Solar X-ray Spectroheliograms (GSFC OSO-7, 1971-083A)					342	343	
A.12aa	Solar Protons (Explorer 41 or 43) Daily hourly values	342	343					
A.12ab	Solar Protons (Explorer 41 or 43) Graphs	342	343					
A.12ba	Cosmic Ray Protons (Pioneers 6 & 7)	337	---	339	340	---	342	---
A.12bb	Cosmic Ray Protons (Pioneers 8 & 9)	337	338	339	340	341	342	343
A.12c	Cosmic Ray Protons (ATS-1)	337						
A.13a	Solar Wind (Pioneers 6 & 7)	337	---	339	340	341	342	---
A.13c	Solar Wind (Vela 6B)							
A.17	Interplanetary Magnetic Field (Pioneer 8)	---	---	339	340	---	342	---
A.17	Interplanetary Magnetic Field (Pioneer 9)	337	338	339	340	341	342	343
A.18	Interplanetary Electric Field (Pioneer 8)	---	---	339	340	---	342	---
A.18	Interplanetary Electric Field (Pioneer 9)	337	338	339	340	341	342	343
B.	Ionospheric (and Radio Wave Propagation) Phenomena							
B.51ca	High Latitude Quality Figures and Forecasts	338	339	340	341	342	343	
B.51cb	High Latitude Comparison Graphs	338	339	340	341	342	343	
B.52	Graphs of Transmission Frequency Range	338	339	340	341	342	343	
B.53	Quality Figures based on Frequency Ranges	338	339	340	341	342	343	
C.	Flare-Associated Events							
C.1a	Optical Observations Flares	337	338	339	340	341	342	343
C.1ba	Optical Observations Flares (Including Standardized Data)	342	343					
C.1d	Flare Patrol Observations	337	338	339	340	341	342	343
C.1e	Flare Indices (by day)	342	343					
C.1f	Flare Index by Region	343						
C.3	Solar Radio Waves - Fixed Frequencies - Outstanding Occurrences	342	343					
	Solar Radio Waves - Fixed Frequencies - Selected	337	338	339	340	341	342	343
C.3t	43.25, 60 and 180 MHz Selected Bursts (Culgoora)	342						
C.4aa	10-2000 MHz - (Fort Davis)	338	339	340	341	342	343	
C.4b	7.6-80 MHz - (University of Colorado)	338	339	340	341	342	343	
C.4d	8-8000 MHz - (Culgoora)	338	339	340	341	342	343	
C.4e	30-1000 MHz - (Weissenau, G.F.R.)	338	339	340	341	342	343	
C.4f	24-48 MHz - (AFCRL, Sagamore Hill)	338	339	340	341	342	343	
C.5b	Solar X-ray Radiation (Explorer 35)							
C.5c	Solar X-ray Radiation (Explorer 44)	338	339	340	341	342	343	
C.6	Sudden Ionospheric Distrubances	338	339	340	341	342	343	
D.	Geomagnetic and Magnetospheric Phenomena							
D.1a	Geomagnetic Indices Ci, Cp, Kp, Ap - Selected Days	338	339	340	341	342	343	
D.1b	27-Day Chart of Kp Indices for Year	342	342	342	342	342		
D.1c	27-Day Chart of C9 for Year	342	342	342	342	342		
D.1d	Principal Magnetic Storms	338	339	340	341	342	343	
D.1e	Reduced Magnetograms	342	343					
D.1f	Sudden Commencement and Solar Flare Effects	338	339	340	341	342	343	
F.	Cosmic Rays							
F.1a	Cosmic Ray Neutron Counts (Deep River)							
F.1b	Cosmic Ray Neutron Counts (Climax)							
F.1c	Cosmic Ray Neutron Counts (Dallas)	338	339	340	341	343	343	
F.1d	Cosmic Ray Neutron Counts (Churchill)							
F.1e	Cosmic Ray Neutron Counts (Alert)							
F.1f	Cosmic Ray Neutron Counts (Calgary)	338	339	340	341	342	343	
F.1g	Cosmic Ray Neutron Counts (Sulphur Mountain)	338	339	340	341	342	343	
H.	Miscellaneous							
H.60	TUWDS Alert Decisions	337	338	339	340	341	342	343
H.62	Abbreviated Calendar Record	343						

SEPTEMBER 1972 DATA

Contents

	Page
Solar Flares	
Confirmed Solar Flares	4-16
Flare Indices	16
Unconfirmed Solar Flares	17-21
No-Flare-Patrol Chart	22
Solar Radio Waves	
Worldwide Outstanding Occurrences at Fixed Frequencies	23-32
Selected Solar Noise Burst	33
Solar X-ray Radiation	
University of Iowa - Explorer 35 (not available at time of publication)	
Naval Research Laboratory - Explorer 44	34-48
Solar Proton Monitoring	49-54
Magnetograms of Geomagnetic Storm	55-56

For explanations of the data contained herein see "Descriptive Text" published as supplement to February 1973 "Solar-Geophysical Data" (Number 342).

SOLAR FLARES
Confirmed
SEPTEMBER 1972

OBSERVATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1972 SEP	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY			COND.	TYPE	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
7 STATIONS REPORTING GROUP 45981. 1 STATIONS OBSERVING AND NOT REPORTING.																			
GRP45981	01	0349	0433	0424	N16	E38	.618	12011	4.8	44	-N				1.80				5 5 5 7
MANI	01	0348E	0429	0422	N15	E40	.642	12011	4.2	41D	-N			0422	.52	.66			
CROK	01	0349	0428D	0428	N15	E42	.668	12011	4.3	39D	-N	3	V		.80				
TEHR	01	0350E	0435	0410	N15	E40	.642	12011	4.2	45D	-N				.46				
SIBE	01	0408E	0838D		N17	E38	.620	12011	4.8	270D	1F		P	0428	2.56	3.50		52	C
ATHN	01	0427E	0434	0427U	N16	E32	.537	12011	3.8	7D	-F	1	V		.66				DE
45981	01	0348	0442	0357	N16	E41	.657	12011	4.2	54	*-N				1.50				4 4 4 7
TACH	01	0347	0502	0401	N17	E42	.671	12011	4.3	75	1N		C	0401	2.19	2.94		64	E
ABST	01	0348	0407D	0359	N16	E42	.669	12011	4.3	19D	1F		P	0359	2.34	3.10			E
MANI	01	0348E	0429	0354	N15	E40	.642	12011	4.2	41D	-N	2		0354	.62	.81			
TEHR	01	0350E	0435	0353	N15	E40	.642	12011	4.2	45D	-N				.84				F
GRP45982	01	0602	0618	0603	N12	W09	.175	12007	31.6	8	--N				.52				3 3 3 6
TEHR	01	0602E	0613	0602U	N13	W08	.170	12007	31.7	11D	-N				.93				F
ATHN	01	0603E	0607	0603U	N15	W10	.217	12007	31.5	4D	-N	3	V		.33				DE
CATA	01	0605E	0610D	0605	N07	W09	.155	12007	31.6	5D	-N		P	0605	.29	.29		(200)	
GRP45985	01	0950	1018	0957	S09	W21	.446	12005	30.8	28	--N				.78				2 2 2 6
MONT	01	0950	0959D	0957	S09	W21	.446	12005	30.8	9D	-N		C	0957	.72				
ATHN	01	0955E	1018	0956	S08	W21	.436	12005	30.8	15D	-N	1		0956	.60	.60			
GRP45989	01	1619	1630	1623	S10	E43	.721	12016	4.9	11	--N				.47				3 3 3 3
HUAN	01	1611	1628	1623	S10	E43	.721	12016	4.9	17	-N	2	C	1623	.36	.52			EK
HCMA	01	1622	1628	1623	S10	E44	.732	12016	5.0	6	-N		C	1623	.36	.50			OH
CANR	01	1624	1634		S09	E43	.717	12016	4.9	10	-N	2	V	1625	.70	.90			
990 HUAN	01	1719	1725	1722U	S08	E42	.701	12016	4.9	6	--F	2	C	1722	.26	.36			E 3
GRP45991	01	1727	1749	1729	N16	E12	.253	12011	2.6	22	--N				.36				3 2 2 3
HUAN	01	1727	1748	1729	N17	E12	.264	12011	2.6	21	-N	2	C	1729	.36	.37			EK
HCMA	01	1727	1750	1729	N15	E11	.238	12011	2.6	23	-N		C	1729	.36	.40			EH
CANR	01	1744	1756		N10	E10	.251	12011	2.5	12	-N	2	V	1746	.60	.60			
992 HUAN	01	1754	1803		S09	E42	.706	12016	4.9	9	--F	1	C	1800	.31	.43			E 3
GRP45993	01	1832	1837	1833	N16	E12	.253	12011	2.7	5	--F				.21				2 2 2 3
PALE	01	1831	1837	1832	N16	E11	.248	12011	2.6	6	-F	4	V		.21				F
HUAN	01	1832	1837	1833	N16	E13	.267	12011	2.7	5	-F	2	C	1833	.21	.21			D
GRP45994	01	1938	1942	1934	N18	E16	.325	12011	3.0	12	--F				.26				2 2 2 2
HUAN	01	1930	1942	1933	N19	E16	.334	12011	3.0	12	-F	2	C	1933	.21	.22			D
PALE	01	1932E	1939D	1934	N17	E16	.316	12011	3.0	7D	-N	2	V		.31				
GRP45995	01	1949	2022	1957	N16	W08	.204	12007	1.2	33	--N				.72				3 2 2 3
HCMA	01	1947E	2005D	1957	N16	W07	.194	12007	1.3	18D	-N		C	1957	.77	.80			EA
HUAN	01	1950	2022	1956U	N17	W08	.217	12007	1.2	32	-N	2	C	1956	.67	.69			E
PALE	01	2018E	2020		N16	W08	.204	12007	1.2	2D	-N								
996 HUAN	01	2049	2057		S08	E40	.678	12016	4.9	8	--F	1	C	2053	.21	.28			D 1
	01	2103	2107	NO FLARE PATROL															
	01	2115	2315	NO FLARE PATROL															
997 HANI	01	2321E	2324	2321	S27	E22	.647	12014	3.8	3D	--N	1		2321	.31	.41			1
	01	2324	2335	NO FLARE PATROL															
998 HANI	02	0010	0027	0017	S09	E38	.659	12016	4.9	17	--F	2		0017	.41	.55			2
GRP45999	02	0130	0153	0139	S09	E37	.646	12016	4.8	23	-F				1.39				4 4 4 4
SIBE	02	0118E	0214	0140	S08	E39	.666	12016	5.0	64D	1F		C	0148	2.45	3.10		58	CF
MITK	02	0126E	0150D	0139	S09	E36	.634	12016	4.8	24D	-N		C	0139	1.83	1.38			D
HANI	02	0133	0140	0135	S09	E37	.646	12016	4.8	7	-F	2		0135	.41	.55			
KODA	02	0138	0146	0140	S08	E36	.629	12016	4.8	8	-N		C	0142	1.66	1.60	2.52		E
GRP46000	02	0346	0406	0349	S08	E36	.629	12016	4.9	20	--F				.76				3 3 3 4
SIBE	02	0345E	0426		S08	E38	.654	12016	5.0	41D	-F		C	0347	1.58	1.90		55	CF
CROK	02	0345E	0354		S09	E36	.634	12016	4.9	9D	-F	3	V		.48				
TEHR	02	0347	0357	0349	S07	E35	.611	12016	4.8	10	-N				.37				F
GRP46002	02	0540	0548	0543	S04	W44	.711	12005	29.9	8	--F				.19				2 2 1 4
ATHN	02	0540E	0547	0541	S04	W44	.711	12005	29.9	7D	-N								
TEHR	02	0544E	0549	0544U	S03	W43	.696	12005	30.0	5D	-F				.19				DE

Note: Catania and Capri-S express Maximum Intensities in percent of the local undisturbed chromosphere instead of percent of the local continuum. Parentheses are used to indicate this difference.

SOLAR FLARES
Confirmed
SEPTEMBER 1972

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1972 SEP	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	NOAA/TH PLAGE REGION	CMP DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP46006	02	0735	0804	0755	S09	W34	.610	12005	30.8	29	-N				1.13				1 1 1 8
MONT	02	0735	0804	0746	S09	W33	.597	12005	30.8	29	-N		C	0746	.41				
MONT	02	0753	0757	0755	S09	W36	.634	12005	30.6	4	-N		C	0755	1.13				H
10 STATIONS REPORTING GROUP 46008.							3 STATIONS OBSERVING AND NOT REPORTING.												
GRP46008	02	0836	0948	0900	N15	E25	.434	12011	4.2	72	1N				2.24				6 5 5 12
MONT	02	0834	0917D	0904	N15	E26	.449	12011	4.3	43D	1B		C	0904	2.58				H
CAPS	02	0837	0948		N17	E25	.443	12011	4.2	63	-N	2	V	0854	1.68	1.98		(164)	
CATA	02	0847E	0910D	0855	N15	E24	.419	12011	4.2	23D	-B		P	0855	1.44	1.59		(229)	
ABST	02	0856E	0908D	0900	N15	E25	.434	12011	4.2	2D	1F		P	0900	1.98	2.28		78	E
KHAR	02	0900E	0935D		N14	E25	.430	12011	4.3	35D	1F		P	0904	3.40	3.80	1.80		B
CAPF	02	0910E	0948		N16	E24	.424	12011	4.2	38D	1N		P	0933	1.86	2.07			L
46008	02	0837	0923	0846	N15	E24	.419	12011	4.2	46	*-N				.74				4 4 3 11
ATHN	02	0836	0930	0843	N14	E24	.415	12011	4.2	54	-N								
TEHR	02	0837	0910	0849	N16	E25	.438	12011	4.2	33	-N				.74				F
CRON	02	0840E	0930		N15	E24	.419	12011	4.2	50D	-N	3	V		.70				
ARCE	02	0841E	0928D		N16	E23	.489	12011	4.1	39D	-N		C	0841	.77	.98			H
GRP46009	02	1008	1025	1011	S22	E16	.547	12014	3.8	17	--N				.49				3 3 3 8
MONT	02	1006	1038	1012	S17	E17	.492	12014	3.7	24	-N		C	1012	.52				H
TEHR	02	1009	1028	1011	S23	E18	.573	12014	3.8	11	-N				.37				F
CATA	02	1010	1025D	1010	S27	E14	.599	12014	3.5	15D	-N		P	1010	.58	.72		(174)	
GRP46012	02	1339	1348	1342	N17	W18	.344	12007	1.2	9	--F				1.88				2 2 1 5
ABST	02	1333	1358	1336	N17	W17	.338	12007	1.3	25	-F		C	1336	.98	1.88		62	D
RAMY	02	1338	1351	1343	N16	W17	.323	12007	1.3	13	-F								
ABST	02	1339	1345	1348	N17	W19	.358	12007	1.1	6	-F		C	1348	1.88	1.98		74	EV
	02	1600	2305	NO FLARE PATROL															
GRP46013	02	1652	1718	1706	N12	W17	.308	12007	1.4	26	--N				.78				3 2 1 3
CANR	02	1650	1718		N07	W17	.298	12007	1.4	28	-N	2	V	1654	.78	.78			
RAMY	02	1654	1725	1658	N16	W17	.323	12007	1.4	31	-N								
PALE	02	1714E	1738	1714	N13	W19	.335	12007	1.3	16D	-F								
014 PALE	02	1841E	1842D	1842	N16	E17	.323	12011	4.1	1D	-N								1
015 BOUL	02	2307	2321	2309	S07	E28	.414	12016	4.5	14	--F	2	V						2
GRP46016	03	0128	0154	0133	S12	W47	.772	12005	30.5	26	1F								2 2 8 3
SIBE	03	0127	0204		S12	W48	.782	12005	30.5	37	2F		P					58	ET
PALE	03	0129	0144	0133	S12	W45	.751	12005	30.7	15	-F								
	03	0130	0131	NO FLARE PATROL															
GRP46018	03	0421	0429	0424	N15	E13	.258	12011	4.2	8	--F				.61				3 3 2 7
CRON	03	0428E	0429		N14	E13	.250	12011	4.2	9D	-F	3	V		.60				
PALE	03	0421	0427	0423	N16	E12	.253	12011	4.1	6	-F								
MANI	03	0423E	0432	0425	N15	E13	.258	12011	4.2	9D	-N	1		0425	.62	.65			
GRP46019	03	0855	1012	0904	S12	W52	.821	12005	30.5	77	-N				1.17				7 7 6 9
TEHR	03	0851	1005	0904	S12	W51	.811	12005	30.5	74	-B				1.38				DE
SIBE	03	0854	1012D		S12	W52	.821	12005	30.5	78D	1F		P	0900	1.71	2.78			ET
CRON	03	0855	0939D	0859	S12	W53	.830	12005	30.4	44D	-N	3	V		.48				
CANR	03	0859	1000	0904	S12	W53	.830	12005	30.4	61	-N	3	V	0910	1.28	2.88			
ONDR	03	0908E	0917D		S12	W51	.811	12005	30.5	17D	1N		V	0903			2.28		CD
ARCE	03	0902E	0906D		S12	W53	.830	12005	30.4	4D	-B		P	0906	.68	1.28			
CATA	03	0905E	1038	0910	S10	W52	.815	12005	30.5	85D	1N		P	0910	1.73	3.88		(158)	
46019	03	0912	0946	(0924)	S10	W54	.834	12005	30.3	34	*1N				2.13				2 2 2 6
KHAR	03	0912E	0948D		S08	W55	.838	12005	30.3	36D	2N		P	0924	3.28	5.58	2.68		
UPIC	03	0922E	0944		S11	W53	.827	12005	30.4	22D	-N		P		1.05				D
	03	1611	1618	NO FLARE PATROL															
	03	1652	1712	NO FLARE PATROL															
	03	1718	1725	NO FLARE PATROL															
	03	1748	1808	NO FLARE PATROL															
	03	1807	1837	NO FLARE PATROL															
	03	1844	1858	NO FLARE PATROL															

SOLAR FLARES
Confirmed
SEPTEMBER 1972

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
					APPROX.		CENTRAL	MCMATH	CMP										
	DATE 1972 SEP	START	END	MAX. PHASE	LAT.	MER. DIST.	DISTANCE	PLAGE REGION	DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH HG	MAX. INT. %	
GRP46028	03	2011	2028	2014	S05	W45	.726	12012	31.5	9	--F				.41				3 3 1 3
PALE	03	2010	2028	2013	S05	W45	.726	12012	31.5	18	-F								
HCMA	03	2011	2022	2015	S04	W46	.734	12012	31.4	11	-N		C	2015	.41	.60			E
RAMY	03	2014E	2017	2014	S06	W44	.717	12012	31.5	3D	-F								
	03	2054	2105	NO FLARE PATROL															
	03	2120	0005	NO FLARE PATROL															
021 CROK	04	0020	0108	0024	S12	W60	.886	12005	30.5	48	-F	3	V	0024	.75				2
	04	0021	0050	NO FLARE PATROL															
	04	0059	0106	NO FLARE PATROL															
	04	0111	0132	NO FLARE PATROL															
	04	0140	0200	NO FLARE PATROL															
GRP46032	04	1406	1425	1410	N13	W08	.170	12011	4.0	19	--F				.52				3 3 1 5
RAMY	04	1405	1427	1409	N14	W07	.160	12011	4.1	22	-F								
HCMA	04	1406	1430D	1412	N12	W08	.160	12011	4.0	24D	-F		C	1412	.52	.50			EH
ATHN	04	1406	1410	1410	N12	W08	.160	12011	4.0	12	-F								
GRP46033	04	1518	1527	1521	S07	W65	.916	12005	30.8	9	--F								2 2 8 5
RAMY	04	1518	1527	1521	S06	W64	.908	12005	30.8	9	-F								
ATHN	04	1518	1526	1520	S08	W65	.918	12005	30.8	8	-F								
034 HCMA	04	1543	1654D	1644	N12	W08	.160	12011	4.1	11D	--F		C	1644	.62	.60			E 2
	04	1702	1703	NO FLARE PATROL															
GRP46035	04	2042	2127	2051	S04	W64	.905	12005	31.1	45	-N								2 2 8 2
BOUL	04	2042	2135	2054U	S04	W63	.898	12005	31.1	53	-N	3	V						
PALE	04	2044E	2118	2048	S03	W64	.904	12005	31.1	34D	-N								
036 VORO	04	2324	2341	2329	N10	W65	.901	12007	31.1	17	1N		C	2329	1.02	2.28		71	EJ 2
039 MITK	05	0155E	0208D	0158	S16	W28	.590	12022	3.8	5D	--N		C	0158	.72	.90			D 3
3 STATIONS REPORTING GROUP 46041.					5 STATIONS OBSERVING AND NOT REPORTING.														
GRP46041	05	0724	0748	0732	N25	W31	.567	12011	3.8	24	--N				.76				3 3 3 8
ATHN	05	0724	0749	0728	N25	W32	.578	12011	2.9	25	-N	2	C		.83				F
HONT	05	0725E	0756D	0737	N24	W31	.561	12011	3.8	30D	-N		C	0737	.72				
HANI	05	0729E	0739	0732	N25	W30	.555	12011	3.1	10D	-F	1		0732	.72	.88			
46041	05	0731	0754	0733	N21	W37	.620	12011	2.5	23	*-N				.41				2 1 1 8
HONT	05	0731	0754	0733	N21	W37	.620	12011	2.5	23	-N		C	0733	.41				
ATHN	05	0731	0747	0734	N29	W37	.657	12011	2.5	16	-F	2	C		.33				DE
GRP46044	05	0942	0958	0948	N15	W17	.315	12011	4.1	16	--N				.53				3 3 2 8
HONT	05	0934	1001	0948	N15	W18	.330	12011	4.0	27	-N		C	0948	.72				H
ATHN	05	0945E	0957	0947	N16	W18	.337	12011	4.1	12D	-F	3	V		.33				DE
WEND	05	0946	0956		N14	W18	.294	12011	4.2	10	-N								
7 STATIONS REPORTING GROUP 46048.					0 STATIONS OBSERVING AND NOT REPORTING.														
GRP46048	05	1428	1521	1434	S24	W21	.687	12014	4.0	53	1N				2.87				5 5 5 7
RAMY	05	1422	1635	1441	S24	W21	.687	12014	4.0	133	1N	3	C		2.78				U
RAMY	05	1422	1635	1429	S24	W21	.687	12014	4.0	133	-N	3	C		1.78				U
UPIC	05	1425	1530D	1431	S23	W22	.603	12014	4.0	65D	1B		P	1431	2.10				U
ATHN	05	1427E	1512	1430	S24	W23	.622	12014	3.9	45D	-N	1	V		1.65				U F
HUAN	05	1430	1502D		S24	W21	.687	12014	4.0	32D	-N	1	P	1442	.83	1.05			E
CAPS	05	1434	1505		S26	W10	.610	12014	4.3	31	1F	2	S	1436	3.00	3.60		(160)	B
46048	05	1428	1635	(1501)	S26	W21	.629	12014	4.0	135	*1N				2.06				2 1 1 8
HCMA	05	1428	1635		S26	W21	.629	12014	4.0	135	1N		C	1501	2.06	2.10			FU
CANR	05	1500	1546		S25	W21	.618	12014	4.0	46	1F	2	V	1515	3.60	3.90			
GRP46050	05	1536	1626	1553	N17	W19	.358	12011	4.2	50	-N				1.70				2 1 1 4
CANR	05	1536	1626		N17	W19	.358	12011	4.2	50	-N	2	V	1542	1.70	1.90			
HCMA	05	1537	1645	1553	N17	W20	.372	12011	4.2	68	1N		C	1553	1.96	2.10			FY
GRP46051	05	1732	1810	1734	N17	W24	.429	12011	3.9	38	-N				1.90				4 4 4 4
RAMY	05	1729	1805	1734	N17	W24	.429	12011	3.9	36	1N	3	V		2.58				F
PALE	05	1730E	1805	1733	N16	W24	.424	12011	3.9	35D	-B	3	V		1.75				F
HCMA	05	1732E	1833D		N17	W25	.443	12011	3.9	61D	1N		P	1732	1.80	2.10			F
CANR	05	1738	1756		N19	W22	.413	12011	4.1	18	-N	2	V	1738	1.80	2.00			
	05	1847	1922	NO FLARE PATROL															

SOLAR FLARES
Confirmed
SEPTEMBER 1972

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1972	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
	SEP																		
	05	1945	1959	NO FLARE PATROL															
	05	2017	2022	NO FLARE PATROL															
GRP46053	05	2127	2133	2129	S07	W80	.988	12005	30.9	6	--F				.62				4 4 1 4
HUAN	05	2126	2132	2128U	S07	W82	.993	12005	30.7	6	-F	1	C						
MCMA	05	2127	2131D		S06	W82	.993	12005	30.7	4D	-N		P	2131					D
RAMY	05	2128E	2134		S06	W80	.987	12005	30.9	6D	-F	2	V						DE
PALE	05	2129E	2133	2130	S05	W77	.977	12005	31.1	4D	-N	3	V		.62				
	05	2141	2153	NO FLARE PATROL															
	05	2158	2212	NO FLARE PATROL															
GRP46054	05	2208	2218	2211	N16	W25	.438	12011	4.0	10	--N				.70				2 2 2 3
PALE	05	2208	2218	2211	N16	W24	.424	12011	4.1	10	-N	3	V		.93				H F
HUAN	05	2212E	2213D		N15	W25	.434	12011	4.0	1D	-N	1	P	2212	.46	.51			E
	05	2213	2252	NO FLARE PATROL															
055 PALE	05	2242E	2258	2242U	S05	W77	.977	12005	31.2	8D	--N	3	V		.31				1
GRP46056	06	0040	0049	0041	S09	W17	.298	12016	4.8	9	--F				.68				2 2 2 3
PALE	05	0040	0048	0041	S08	W16	.276	12016	4.8	8	-F	3	C		.66				F
CRON	06	0040	0049	0041	S09	W18	.410	12016	4.7	9	-F	3	V	0041	.70				
GRP46059	06	0410	0448	0417	S07	W87	.999	12016	38.6	38	1B				4.07				8 6 4 8
TACH	06	0350	0446	0410	S09	W90	1.000	12016	30.4	56	1B		C	0410	.64		4.55	116	DHY
TEHR	06	0407	0435	0412	S08	W80	.988	12016	31.2	28	1B	4	V						F
MANI	06	0407	0448	0412	S07	W88	1.000	12016	30.6	41	1B	2		0412	1.03	1.37			
CRON	06	0408	0425	0414	S08	W87	.999	12016	30.6	17	-N	3	V	0414	.70				
CULG	06	0410	0435	0415	S04	W90	1.000	12016	30.4	25	1N			0415	.68				
SIDE	06	0411	0444		S06	W88	1.000	12016	30.6	33	3N		P	0416	13.90	15.70			AT
KODA	06	0417	0437	0422	S06	W90	1.000	12016	30.4	20	2B		C	0422			4.16		AR
ABST	06	0432E	0442	0434	S07	W87	.999	12016	30.7	10D	1F		P	0434	.90				BDZ
GRP46061	06	0535	0548	0537	S07	W86	.999	12005	30.8	13	1F				.31				3 3 2 7
TEHR	06	0535E	0546	0537	S08	W81	.991	12005	31.2	11D	-F	3	V		.28				DE
ATHN	06	0535	0548D	0537	S07	W88	1.000	12005	30.6	13D	-N	2	C		.33				DE
SIDE	06	0535	0558D		S06	W90	1.000	12005	30.5	15D	2F		V						T
GRP46065	06	0652	0725	0658	S15	W44	.754	12022	3.0	33	-N				1.41				7 5 5 7
SIDE	06	0650	0732	0702	S15	W44	.754	12022	3.0	42	1F		C	0702	2.77	3.90		68	E
CRON	06	0650E	0725		S19	W45	.783	12022	2.9	35D	-N	3	V		.68				
TEHR	06	0650	0718	0655	S05	W41	.678	12022	3.2	28	-N	3	V		.54				F
ATHN	06	0651	0723	0657	S15	W43	.744	12022	3.1	32	-N	3	C		1.65				F
MANI	06	0654	0725	0656	S14	W44	.750	12022	3.0	31	-N	2		0656	.93	1.43			
BUCA	06	0655	0717		S14	W45	.760	12022	2.9	22	-N		C	0701	1.10	1.30			
WENO	06	0706E	0728D		S15	W42	.734	12022	3.1	22D	1N		P		5.00				
GRP46066	06	0805	0846	0814	S09	W20	.434	12016	4.8	41	-F				2.51				2 2 2 6
ARCE	06	0805E	0828D		S09	W20	.434	12016	4.8	15D	-F		C	0815	.84	.90			H
SIDE	06	0810E	0846D	0814	S08	W19	.412	12016	4.9	36D	1F		P	0814	4.17	4.20		58	CT
GRP46067	06	0819	0839	0822	N14	W30	.503	12011	4.1	20	--N				.62				4 4 4 6
SIDE	06	0816E	0846D	0821	N13	W30	.501	12011	4.1	30D	-F		P	0821	1.50	1.80		52	CTU
CANR	06	0819E	0840	0820	N15	W30	.506	12011	4.1	21D	-N	2	V	0820	.30	.38			
ARCE	06	0820E	0825D		N13	W31	.516	12011	4.0	5D	-N		C	0820	.38	.40			
TEHR	06	0822	0830	0824	N14	W27	.460	12011	4.3	8	-N				.28				F
GRP46068	06	0910	0943	0922	S06	W85	.997	12005	31.0	33	--F				.32				4 3 2 8
ARCE	06	0910E	0958D		S08	W88	1.000	12005	30.8	48D	-N		C	0930	.35				H
ATHN	06	0911E	0942	0913	S05	W90	1.000	12005	30.6	31D	-F	3	V						DE
TEHR	06	0930E	0948	0930U	S08	W82	.993	12005	31.2	18D	-F	3	V		.28				F
KHAR	06	0938E	0939		S03	W85	.997	12005	31.0	9D	1F		V				2.48		DH
6 STATIONS REPORTING GROUP 46070. 2 STATIONS OBSERVING AND NOT REPORTING.																			
GRP46070	06	1300	1347	1314	S09	W25	.496	12016	4.7	47	-N				1.89				5 5 4 8
RAMY	06	1251	1344	1313	S09	W24	.483	12016	4.7	53	-F	3	C		.56				DE
CATA	06	1308	1315D	1305	S07	W25	.480	12016	4.7	15D	-N		P	1305	.58	.66		(178)	
ONDR	06	1309	1342	1317	S10	W25	.504	12016	4.7	33	1N		V	1317			2.38		EH
MCMA	06	1310E	1341D	1318	S09	W24	.483	12016	4.7	31D	-N		C	1318	.52	.68			E
ABST	06	1315E	1355	1319	S09	W25	.496	12016	4.7	40D	1F		P	1319	2.70	3.00			FZ
46070	06	1251	1344	1255	S09	W24	.483	12016	4.7	53	*-F				.37				2 1 1 8
RAMY	06	1251	1344	1255	S09	W24	.483	12016	4.7	53	-F	3	C		.37				DE
HUAN	06	1332	1339D	1334U	S08	W23	.462	12016	4.8	7D	-F	1	C	1334	.21	.23			D

SOLAR FLARES
Confirmed
SEPTEMBER 1972

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
					APPROX.		CENTRAL DISTANCE	NOAA PLAGE REGION	CMP DAY			COND.	TYPE	TIME	MEAS. AREA	CORR. AREA	MAX. WIDTH	MAX. INT.	
	DATE 1972 SEP	START	END	MAX. PHASE	LAT.	MER. DIST.				MIN.				UT	Sq. Deg.	Sq. Deg.	Hα	%	
GRP46072	06	1517	1538	1528	S07	E38	.649	12025	9.5	13	--F				.35				2 2 2 4
RANY	06	1516	1535	1519	S06	E39	.657	12025	9.0	19	-F	3	C		.28				DE
HCHA	06	1518	1524	1520	S08	E37	.642	12025	9.4	6	-N		C	1520	.41	.50			DH
GRP46073	06	1643	1653	1646	S07	E37	.637	12025	9.5	10	--F				.28				3 3 3 4
RANY	06	1643	1655	1645	S06	E36	.645	12025	9.5	12	-F	3	C		.28				DE
PALE	06	1643	1652	1647	S06	E37	.632	12025	9.5	9	-F	3	C		.34				
HCHA	06	1644	1652	1647	S08	E36	.629	12025	9.4	8	-F		C	1647	.21	.30			D
074 HCHA	06	2056	2101	2058	S08	E34	.604	12025	9.4	5	--F		C	2058	.21	.30			D 2
	06	2135	2144	NO FLARE PATROL															
075 PALE	06	2149E	2154D	2150	S08	W29	.540	12016	4.7	5D	--N	2	C		.34				2
	06	2222	2308	NO FLARE PATROL															
GRP46076	07	0135	0156	0141	S11	W29	.561	12016	4.9	21	-N				1.01				5 5 5 5
MITH	07	0131E	0208D	0140	S11	W30	.573	12016	4.8	29D	-N		C	0140	1.34	1.60			D
HANI	07	0132	0159	0141	S10	W30	.566	12016	4.8	27	-N	2		0141	.93	1.13			
KODA	07	0138E	0150		S11	W29	.561	12016	4.9	12D	-B		C	0139	1.17	1.20			D
CRON	07	0138	0154	0142	S11	W30	.573	12016	4.8	16	-F	3	V	0142	.50				
VORO	07	0140E	0157D		S12	W28	.557	12016	5.0	17D	-B		P	0143	1.11	1.31		72	D
GRP46079	07	0733	0748	0735	N18	W48	.646	12011	4.3	15	--F				.91				3 3 3 4
TEHR	07	0728	0752	0735	N16	W38	.618	12011	4.5	24	-F	4	V		1.09				F
ATHN	07	0733E	0742	0733U	N17	W42	.671	12011	4.2	9D	-F	3	V		.50				DE
HONT	07	0737	0758	0737	N21	W41	.668	12011	4.2	13	-N		C	0737	1.13				
GRP46080	07	0743	0756	0748	S08	W37	.642	12016	4.9	13	--F				.52				2 2 2 4
HONT	07	0737E	0756	0747	S09	W36	.634	12016	4.6	19D	-N		C	0747	.52				
ATHN	07	0749	0755	0749U	S06	W38	.645	12016	4.9	6	-F	1		0749	.52	.35			
GRP46082	07	0805	0821	0814	N17	W42	.671	12011	4.2	16	-N				.91				3 3 3 5
HONT	07	0759	0824	0813	N16	W41	.656	12011	4.3	25	-N		C	0813	1.55				
CAPS	07	0810	0816		N17	W40	.646	12011	4.3	6	-N	3	V	0813	.50	.60		(164)	
ATHN	07	0814	0824	0814U	N18	W44	.696	12011	4.0	10	-N	1		0814	.68	.76			
ATHN	07	0814E	0824	0814U	N18	W44	.696	12011	4.0	10D	-N	3	V		.66				DE
GRP46085	07	1114	1119	1115	N15	W47	.727	12011	3.9	5	--F				.31				2 2 2 5
RANY	07	1112	1119	1113	N14	W46	.715	12011	4.0	7	-F	4	C		.28				DE
ATHN	07	1115	1119	1116	N16	W48	.740	12011	3.9	4	-F	1		1116	.34	.37			
	07	2139	2148	NO FLARE PATROL															
GRP46088	08	0845	0326		N14	E48	.641	12021	11.0	161	--F				2.13				2 2 2 3
HANI	08	0845	0855	0847	N19	E42	.675	12021	11.2	10	-F	2		0847	.41	.56			
SIBE	08	0855E	0326	0116	N09	E48	.638	12021	11.0	151D	1F		P	0116	3.85	5.10		51	ET
HANI	08	0101	0110	0104	N19	E39	.638	12021	11.0	9	-F	2		0104	.31	.41			
GRP46097	08	1253	1311	1256	N13	W63	.884	12011	3.0	18	--N				.38				3 3 3 7
RANY	08	1251	1305	1255	N12	W62	.876	12011	3.9	14	-F	4	C		.28				DE
CATA	08	1255	1310D	1255	N13	W62	.876	12011	3.9	15D	-N		P	1255	.29	.68		(178)	
ATHN	08	1257E	1317	1257U	N15	W65	.899	12011	3.7	20D	-N	3	V		.33				DE
CATA	08	1305	1310D	1305	N14	W62	.876	12011	3.9	5D	-N		P	1305	.29	.60		(158)	
GRP46099	08	1506	1527	1509	N14	W65	.899	12011	3.8	21	--F				.24				3 2 2 5
CANR	08	1447	1520	1450	N13	W64	.892	12011	3.8	33	-F	2	V	1450	.20	.40			
ATHN	08	1503E	1526	1507	N15	W65	.899	12011	3.8	23D	-N	2	V		.33				DE
BOUL	08	1508	1520	1511	N13	W64	.892	12011	3.8	20	-F	3	V	1511	.15	.30			
GRP46100	08	1702	1720	1707	N16	W78	.972	12011	2.9	18	--F				.57				3 3 3 5
CANR	08	1708	1720	1705	N12	W79	.977	12011	2.8	28	-F	2	V	1705	.38	1.00			
PALE	08	1702	1719	1707	N17	W75	.959	12011	3.1	17	1F	3	C		.91				F
BOUL	08	1704	1720	1710	N20	W80	.979	12011	2.7	16	-F	3	V	1710	.58	2.00			
GRP46101	08	1748	1813	1755	N20	W59	.852	12011	4.3	33	-N				.75				5 4 4 5
RANY	08	1729E	1748D	1729U	N13	W64	.892	12011	3.9	11D	-F	3	V		.26				DE
CANR	08	1738	1805	1752	N21	W59	.853	12011	4.3	27	-N	2	C	1752	.86	1.63			
BOUL	08	1741	1815	1753	N22	W57	.836	12011	4.5	34	-N	2	C	1753	.97	1.78			
HCHA	08	1745E	1748D		N19	W61	.868	12011	4.2	3D	-N		C	1746	.36	.70			E
PALE	08	1757E	1819	1759	N19	W59	.852	12011	4.3	22D	-N	3	C		.81				F
GRP46102	08	2333	2341	2336	N16	W84	.991	12011	2.7	8	-F				.53				2 2 2 4
VORO	08	2332	2340	2334	N14	W85	.993	12011	2.6	8	1N		C	2334	.65	3.16		64	D
BOUL	08	2334	2341	2338	N17	W83	.988	12011	2.8	7	-F	2	V	2338	.48	1.30			
106 ATHN	09	0705	0732	0718	N15	W78	.933	12011	4.0	27	-N	2	C		.58				DE 4

SOLAR FLARES
Confirmed
SEPTEMBER 1972

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1972 SEP	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg	MAX. INT. %	
GRP46111	09	0943	1805	0948	N17	E00	.169	12026	9.4	22	--F				1.24				4 4 4 7
ARCE	09	0941	0955D		N17	E01	.170	12026	9.5	14D	-F		C	0947	.58	.68			
KHAR	09	0942E	1805D		N16	E01	.153	12026	9.5	23D	1F		P	0951	2.04	2.98	1.88		E
CATA	09	0945	1805	0950	N17	W01	.170	12026	9.3	20	-N		C	0950	.87	.88		(170)	
ATHN	09	0946E	0956D	0946U	N17	E00	.169	12026	9.4	10D	-N	2	C		.66				DE
GRP46125	10	0620	0638	0624	N15	W05	.993	12011	3.9	18	-F				.59				2 2 2 6
TEHR	10	0620	0628	0624	N14	W01	.983	12011	4.2	8	-N	3	V		.37				DE
ABST	10	0621E	0631	0623	N15	W09	.999	12011	3.6	10D	1F		P	0623	.81			62	D
GRP46129	10	0929	1006	0938	N11	W57	.832	12023	6.1	37	-N				.91				6 6 6 7
CATA	10	0925	1028	0948	N12	W58	.841	12023	6.0	55	-N		C	0948	.87	1.68		(191)	
CANR	10	0930E	0955	0935	N12	W55	.813	12023	6.3	25D	-N	2	V	0935	.60	1.02			
ATHN	10	0930E	1000	0933	N10	W60	.868	12023	5.9	30D	-N	3	V		.83				DE
CAPS	10	0930	1018		N10	W56	.823	12023	6.2	48	-B	1	V	0935	1.28	1.98		(258)	
CRON	10	0936E	0953	0938	N12	W56	.841	12023	6.0	17D	-N	3	V	0938	.65				
TEHR	10	0938E	1009	0944	N09	W55	.813	12023	6.3	31D	-N	3	V		1.38				F
GRP46132	10	1237	1252	1238	N11	W62	.877	12023	5.9	15	--F				.47				4 4 3 8
RAMY	10	1236	1250	1237	N11	W61	.868	12023	5.9	14	-F	3	C		.28				DE
MCMA	10	1237	1245	1238	N11	W62	.877	12023	5.9	8	-N		C	1238	.31	.78			D
ATHN	10	1238E	1305	1240	N10	W61	.869	12023	6.0	27D	-N	3	V		.83				DE
ONDR	10	1242E	1248D		N10	W63	.885	12023	5.8	6D	1F		V	1243			2.18		CG
8 STATIONS REPORTING GROUP 46133. 1 STATIONS OBSERVING AND NOT REPORTING.																			
GRP46133	10	1345	1426	1357	N20	E04	.231	12021	10.9	41	-N				1.15				6 6 4 8
MCMA	10	1344	1425D	1356	N20	E06	.242	12021	11.0	41D	-N		C	1356	.62	.68			E
BOUL	10	1345	1528D	1358U	N21	E04	.247	12021	10.9	95D	-N	2	V						
KIEV	10	1345	1408	1356	N18	E07	.220	12021	11.1	15	1N		C	1356	2.06	2.88		60	DI
RAMY	10	1346E	1448	1356	N21	E04	.247	12021	10.9	62D	-N	3	C		.93				F
ATHN	10	1350E	1428	1358	N18	W02	.190	12021	10.4	38D	-N	3	V		.99				F
ONDR	10	1354E	1404D		N21	E07	.264	12021	11.1	10D	1N		V	1355			2.40		C
46133	10	1338	1448	1344	N20	E06	.242	12021	11.0	70	*-N				.51				3 3 3 8
CANR	10	1330	1448	1338	N19	E06	.227	12021	11.0	78	-N	2	V		.38				
CATA	10	1345	1358D	1345	N20	E07	.249	12021	11.1	9D	-N		P	1345	.58	.59		(170)	
RAMY	10	1346E	1448	1348	N21	E04	.247	12021	10.9	62D	-N	3	C		.65				F
	10	2100	2133	NO FLARE PATROL															
GRP46136	11	1019	1107	1027	N19	W07	.235	12021	10.9	48	1N				3.13				8 7 7 8
MONT	11	1002	1112D	1029	N19	W06	.227	12021	11.0	70D	1B		C	1029	4.13				
ATHN	11	1005	1118	1019	N18	W07	.221	12021	10.9	73	1B	3	C		3.38				F H
ATHN	11	1005	1118	1008	N18	W07	.221	12021	10.9	73	-F	3	C		.99				F H
TEHR	11	1014	1110	1027	N19	W10	.263	12021	10.7	56	1N	2	V		3.71				F
TEHR	11	1014	1110	1033	N19	W10	.263	12021	10.7	56	-B	2	V		1.06				F
CANR	11	1016	1050	1020	N18	W06	.212	12021	11.0	34	-N	2	C	1020	1.72	1.73			
CATA	11	1020	1105D	1030	N19	W07	.235	12021	10.9	45D	1B		P	1030	2.60	2.66		(240)	
CAPS	11	1024	1215		N18	W08	.238	12021	10.8	111	1N	1	P	1025	4.50	4.50		(288)	
HERS	11	1029	1034	1029	N21	W07	.264	12021	10.9	5	1N		P	1030	1.93	2.10			E
RAMY	11	1034E	1143	1034U	N20	W07	.250	12021	10.9	69D	-N	3	C		1.95				F
GRP46141	12	1637	1647	1648	S10	W10	.341	12025	11.9	10	--N				.43				4 4 4 5
RAMY	12	1636	1649	1638	S08	W10	.313	12025	11.9	13	-N	3	C		.56				DE
PALE	12	1637E	1643D	1639U	S10	W10	.341	12025	11.9	6D	-N	2	V		.46				
BOUL	12	1638	1646	1644	S11	W10	.355	12025	11.9	8	-N	2	C	1644	.43	.46			
HUAN	12	1641E	1647		S11	W10	.355	12025	11.9	6D	-F	1	P	1642	.26	.27			CD
GRP46143	13	0252	0335	0301	N17	W28	.485	12021	11.0	43	1N				2.66				5 4 4 5
VORO	13	0248	0358	0303	N15	W27	.463	12021	11.1	70	2F		C	0303	4.71	5.24		77	EJ
CRON	13	0250	0327	0300	N16	W26	.462	12021	11.2	37	-N	3	V	0300	1.38				
TEHR	13	0252E	0331	0258	N16	W31	.523	12021	10.8	39D	-N	4	V		1.28				F
KODA	13	0259	0322	0301	N18	W28	.498	12021	11.0	23	1B		V	0302	3.35	3.40	1.76		
TACH	13	0310	0340		N18	W33	.558	12021	10.7	22	2N		C	0310	5.93	7.86		104	BF
GRP46146	13	1024	1036	1027	S13	E22	.497	12028	15.1	12	-N				1.39				2 2 2 7
MONT	13	1024	1036D	1029	S14	E21	.496	12028	15.0	12D	-N		C	1029	2.27				
ATHN	13	1025E	1035	1025U	S12	E22	.487	12028	15.1	10D	-N	1	C		.58				DE
	13	2336	0002	NO FLARE PATROL															
	14	0004	0013	NO FLARE PATROL															
	14	0026	0032	NO FLARE PATROL															
	14	0034	0050	NO FLARE PATROL															
	14	0053	0116	NO FLARE PATROL															

SOLAR FLARES
Confirmed
SEPTEMBER 1972

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1972 SEP	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
148 PALE	14	0134	01360	0139U	N07	E45	.703	12034	17.4	20	--F	2	C		.19				2
149 MCMA	14	2131	21480	2133	N05	E33	.543	12034	17.4	90	--F		C	2133	.26	.30			D 2
150 BOUL	14	2200	2245	2213U	S15	W03	.381	12028	14.7	45	--F	2	V	2213	.25	.25			2
	14	2356	0848	NO FLARE PATROL															
GRP46152	15	0310	0324	0312	N11	E51	.771	12035	19.0	14	--F				1.14				3 3 3 4
CRON	15	0308E	0321		N11	E51	.771	12035	19.0	13D	-N	3	V		.60				
TEHR	15	0310E	0327	0310U	N12	E49	.749	12035	18.8	17D	-F	3	V		.36				F
SIDE	15	0311	04160	0314	N11	E53	.792	12035	19.1	65D	1F		C	0314	2.45	4.30		54	CV
GRP46157	15	1242	1249	1244	S10	E17	.489	12038	16.8	7	--F				.27				3 3 3 4
ATHN	15	1241	1258	1244	S10	E16	.420	12038	16.9	9	-F	3	C		.33				DE
RAMY	15	1241	1248	1243	S10	E17	.489	12038	16.8	7	-F	3	C		.19				DE
CATA	15	1245	1250	1245	S10	E17	.489	12038	16.8	5	-N		C	1245	.29	.31		(166)	
GRP46159	16	0623	0718	0625	S11	E07	.333	12038	16.8	55	--F				1.44				2 1 1 6
ABST	16	0623	0718	0625	S11	E07	.333	12038	16.8	55	-F		C	0625	1.44	1.60		82	D
HONT	16	0652	0713	0704	S10	E08	.325	12038	16.9	21	-N		C	0704	.72				
GRP46162	16	1542	1551	1545	S16	E90	1.001	12040	23.4	9	-N				.21				2 2 1 5
ATHN	16	1541	1550	1544	S16	E90	1.001	12040	23.4	9	-N	2	C						DE
HUAN	16	1543	1551	1546	S16	E90	1.001	12040	23.4	8	-N	2	C	1546	.21				D
163 HUAN	16	1625	1632	1627	S16	E90	1.001	12040	23.4	7	--F	2	C	1627	.21				D 3
GRP46165	16	1855	1907	1858	S12	W25	.521	12028	14.9	12	--F				.43				2 2 2 4
PALE	16	1853	1918	1856	S12	W25	.521	12028	14.9	17	-F	3	C		.45				
HUAN	16	1857	1903	1859	S12	W24	.509	12028	15.0	6	-F	1	C	1859	.41	.48			
GRP46166	16	1937	1953	1942	S12	W25	.521	12028	14.9	16	--N				.60				4 4 4 4
PALE	16	1935	1956	1942U	S13	W25	.530	12028	14.9	21	-N	3	C		.63				F
MCMA	16	1936E	19580		S12	W25	.521	12028	14.9	140	-N		P	1938	.41	.50			E
HUAN	16	1936	19520	1942	S13	W24	.519	12028	15.0	16D	-N	1	C	1942	.57	.68			E
BOUL	16	1948	1952	1943	S10	W24	.492	12028	15.0	12	-F	1	V	1943	.80	1.10			
GRP46170	17	0926	0948	0935	S10	W34	.615	12028	14.8	22	-F				1.34				2 2 2 6
CATA	17	0925	0945	0935	S10	W33	.603	12028	14.9	20	1N		C	0935	2.02	2.54		(186)	
ATHN	17	0927	0951	0934	S09	W35	.622	12028	14.8	24	-F	3	V		.66				F
GRP46171	17	1345	1355	1347	S10	W08	.325	12038	17.0	10	--N				.45				5 5 5 6
RAMY	17	1345	1357	1347	S09	W08	.310	12038	17.0	12	-N	3	C		.46				DE
MCMA	17	1345	1354	1348	S10	W09	.332	12038	16.9	9	-N		C	1348	.41	.40			E
CATA	17	1345	1355	1345	S09	W07	.303	12038	17.0	10	-N		C	1345	.58	.60		(155)	
HUAN	17	1346	1356	1349	S10	W08	.325	12038	17.0	10	-N	2	C	1349	.15	.16			D
ATHN	17	1348E	1353	1348U	S10	W10	.340	12038	16.8	5D	-N	2	V		.66				DE
GRP46172	17	1737	1751	1741	S15	W40	.712	12028	14.7	14	--N				.61				4 4 4 5
CANR	17	1736	1753	1744	S13	W39	.691	12028	14.8	17	-N	2	C	1744	.54	.74			
PALE	17	1737	1748	1740	S15	W40	.712	12028	14.7	11	-N	2	C		.72				UDE
MCMA	17	1737	1758	1740	S15	W40	.712	12028	14.7	18	-N		C	1740	.62	.80			E
HUAN	17	1736	1747	1741	S16	W40	.718	12028	14.7	9	-N	1	C	1741	.57	.79			E
174 PALE	17	2222	2236	2228	S15	W42	.733	12028	14.8	14	--N	2	C		.36				F 2
	17	2359	0001	NO FLARE PATROL															
	18	0023	0028	NO FLARE PATROL															
4 STATIONS REPORTING GROUP 46175. 8 STATIONS OBSERVING AND NOT REPORTING.																			
GRP46175	18	0053	0155	0056	S16	E64	.923	12040	22.8	62	-B				.45				2 2 2 2
CRON	18	0053E	0155	0054	S17	E63	.919	12040	22.8	62D	-B	3	V	0054	.45				
PALE	18	0057E	01200	0058	S15	E65	.928	12040	22.9	23D	-N	3	C		.45				
46175	18	0115	0205	(0115)	S15	E66	.934	12040	23.0	50	*-N				.72				2 1 1 4
MITK	18	0115E	0205		S15	E66	.934	12040	23.0	580	-N		C	0115	.72				
KODA	18	0136E	01510		S16	E65	.930	12040	22.9	13D	-B		C	0138	1.80	1.80			EZ
GRP46179	18	1130	1228	1138	S16	E59	.898	12040	22.9	58	1F				.87				4 4 3 5
CATA	18	1110E	12050	1140	S17	E57	.877	12040	22.7	55D	1F		P	1140	1.16	2.41		(145)	
CANR	18	1130	1220	1136	S15	E61	.902	12040	23.1	50	-N	2	V		.28	.40			
KHAR	18	1138E	1145D		S19	E59	.897	12040	22.9	15D	2F		V				2.10		H
CAPE	18	1143E	1148D		S14	E59	.885	12040	22.9	5D	1N		P	1145	1.24				
180 CANR	18	1338	1448	1358	N19	E06	.228	12035	19.0	78	--F				1.80				4

SOLAR FLARES
Confirmed
SEPTEMBER 1972

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1972 SEP	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP46181	18	1514	1530	1519	S08	W25	.487	12030	16.8	16	--F		C		.74				3 3 3 5
BOUL	18	1512	1543	1517	S08	W27	.513	12030	16.6	31	-F	2	C	1517	.75	.88			
BOUL	18	1513	1530D	1521	S07	W25	.480	12030	16.8	17D	-F	3	V						
HUAN	18	1514	1535	1521U	S08	W26	.500	12030	16.7	21	-F	1	C	1521	.46	.54			E
CAPS	18	1516	1526		S09	W22	.458	12030	17.0	10	-F	2	S	1522	1.00	1.10			
GRP46183	19	0206	0232	0215	S16	E53	.842	12040	23.1	26	-N				.95				5 5 5 5
PALE	19	0205	0227	0216	S15	E52	.830	12040	23.0	22	-N	3	C		.55				F
CRON	19	0205	0225	0215	S16	E52	.833	12040	23.0	20	-N	3	V	0215	.70				
SIBE	19	0207	0238D	0214	S17	E53	.845	12040	23.1	31D	-F		C	0214	1.10	2.00		54	CE
MITK	19	0208	0236	0215	S15	E53	.839	12040	23.1	28	1F		C	0215	1.13	2.10			E
KODA	19	0212E	0212D		S16	E53	.842	12040	23.1		-N		P	0212	1.21	1.20			
GRP46184	19	0914	1100	0958	S13	E48	.785	12040	23.0	106	1N				1.62				5 2 2 8
ATHN	19	0907	1100	0946	S13	E47	.775	12040	22.9	113	1N	3	C		1.41				F S
TEHR	19	0920	1005D	0937	S12	E48	.782	12040	23.0	45D	1N	4	V		1.83				U S
ARCE	19	0930E	0956D		S14	E47	.779	12040	22.9	26D	-F		C	0930	.35	.58			
CANR	19	1000E	1030	1005	S11	E47	.768	12040	22.9	30D	-N	2	V	1000	.68	.90			
MONT	19	1024E	1056	1024	S09	E48	.771	12040	23.0	32D	-N		C	1024	1.13				
186 HUAN	19	1926	2001	1929U	S03	E90	1.000	12044	26.6	35	--F	2	C	1929	.26				T 3
GRP46191	20	1353	1409	1355	N08	W42	.664	12034	17.4	16	--F				.38				5 5 5 10
ATHN	20	1350E	1405	1353	N08	W43	.677	12034	17.4	15D	-N	3	V		.33				DE
BOUL	20	1352	1415	1352	N09	W42	.664	12034	17.4	23	-F	2	V	1352	.55	.70			
HUAN	20	1353	1405	1355	N08	W42	.664	12034	17.4	12	-F	2	C	1355	.21	.27			D
CANR	20	1355	1418	1357	N08	W41	.651	12034	17.5	15	-N	2	V	1357	.60	.80			
RAMY	20	1357E	1409	1357U	N07	W42	.665	12034	17.4	12D	-F	3	C		.19				DE
GRP46193	20	1829	1837	1831	S12	E85	.998	12044	27.1	8	--F				.34				2 2 2 5
HUAN	20	1828	1837		S12	E88	1.000	12044	27.4	9	-N	1	C	1831	.31				E
PALE	20	1829	1836	1831	S11	E82	.994	12044	26.9	7	-F	2	C		.36				F
198 PALE	20	2345	2353	2348	S06	E75	.970	12044	26.6	8	--F	2	C		.45				3
GRP46201	21	0117	0128	0120	S07	E76	.975	12044	26.8	11	-F				.75				4 4 4 5
SIBE	21	0115	0130	0121	S07	E77	.978	12044	26.8	15	1F		C	0121	1.06	4.60		52	DT
VORO	21	0117	0129	0120	S04	E75	.969	12044	26.7	12	1N		C	0120	1.02	3.92		74	DJ
PALE	21	0118	0123	0120	S06	E75	.970	12044	26.7	5	-F	3	V		.31				
MITK	21	0119	0129	0120	S10	E76	.977	12044	26.8	10	-N		C	0120	.62				D
GRP46202	21	0232	0244	0236	S06	E76	.974	12044	26.8	12	1F				1.12				2 2 2 5
SIBE	21	0231	0243	0235	S07	E78	.982	12044	27.0	12	2F		P	0235	1.50	7.10		97	DT
VORO	21	0232	0245	0236	S04	E74	.964	12044	26.7	13	1N		C	0236	.74	2.57		72	DJ
GRP46203	21	0355	0606	0553	S06	E71	.951	12044	26.5	131	-N				.67				2 2 2 5
TEHR	21	0355E	0608	0555U	S05	E71	.950	12044	26.5	133D	-N	3	V		.83				DE
ATHN	21	0543	0603	0550	S06	E71	.951	12044	26.6	20	-N	2	C		.58				DE
GRP46206	21	0849	0902	0853	S06	E68	.934	12044	26.5	13	--F				.27				2 2 2 6
ATHN	21	0848	0857	0851	S07	E67	.929	12044	26.4	9	-F	2	C		.17				DE
TEHR	21	0850	0906	0854	S05	E69	.939	12044	26.5	16	-N	4	V		.37				F
GRP46208	21	0913	0941	0917	S07	E67	.929	12044	26.4	28	1N				1.17				7 6 6 8
KHAR	21	0855E	0935D	0915	S09	E66	.925	12044	26.3	40D	2F		P	0919	2.84		2.10		
ARCE	21	0911E	0911D		S06	E65	.915	12044	26.3		-F		P	0911	.22				
ATHN	21	0911E	0943D	0917	S08	E68	.936	12044	26.5	32D	-N	3	V		.83				DE
TEHR	21	0912	0922	0914	S05	E69	.939	12044	26.6	10	-N	4	V		.19				DE
CATA	21	0915	1140	0920	S07	E65	.916	12044	26.3	145	1B		C	0920	1.73	4.33		(234)	U
CANR	21	0917	0919D		S05	E70	.945	12044	26.6	2D	1N	2	V	0919	1.00	2.50			
CRON	21	0921E	0945	0921U	S06	E66	.921	12044	26.3	24D	-N	3	V	0921	.45				
TEHR	21	1032	1052	1036	S05	E68	.933	12044	26.5	28	-N	4	V		.55				F
GRP46210	21	1210	1244	1219	S07	E66	.923	12044	26.5	34	-N				.43				3 3 3 6
HUAN	21	1210U	1219D		S07	E66	.923	12044	26.5	9D	-F	1	P	1212	.26				ET
MCHA	21	1210E	1242D		S07	E66	.923	12044	26.5	32D	-N		C	1229	.52	1.40			E
RAMY	21	1217E	1244	1219U	S06	E67	.928	12044	26.5	27D	-N	1	V		.52				F
46210	21	1230	1313	1248	S05	E67	.927	12044	26.5	43	*-N				.74				3 3 3 5
ARCE	21	1229E	1320D		S06	E64	.908	12044	26.3	51D	-N		C	1250	.69	1.60			
CANR	21	1231	1245D	1245	S05	E70	.945	12044	26.8	14D	-N	2	V	1240	.80	1.90			
RAMY	21	1249	1306	1251U	S05	E67	.927	12044	26.6	17	-N	1	V		.72				F
GRP46212	21	1500	1515	1503	N08	W57	.834	12034	17.4	15	-N				.56				3 3 3 7
ATHN	21	1500E	1516	1503	N07	W58	.825	12034	17.4	16D	-N	3	V		.66				DE
RAMY	21	1500	1518	1502	N08	W58	.843	12034	17.3	18	-N	3	V		.37				DE
BOUL	21	1500	1518	1504	N09	W57	.833	12034	17.4	18	-N	2	C	1504	.65	1.16			

SOLAR FLARES
Confirmed
SEPTEMBER 1972

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1972 SEP	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		CONG.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP46214	21	2026	2038	2029	N09	W68	.861	12034	17.4	12	-N				.51				3 3 3 4
HUAN	21	2025	2040	2028	N08	W61	.878	12034	17.3	15	-N	1	C	2028	.36	.73			
BOUL	21	2026	2038	2031	N11	W61	.868	12034	17.3	12	-N	2	C	2031	.54	1.09			
PALE	21	2027	2035	2029	N07	W57	.834	12034	17.6	8	-N	3	V		.62				F
GRP46216	21	2241	2345	2258	S17	E14	.466	12048	23.8	64	-B				1.59				3 2 2 4
CULG	21	0252E	2314U		S18	E12	.466	12040	22.0	22D	1N			2252	1.98	2.20			
BOUL	21	2241	0008U	2253	S18	E14	.479	12040	23.0	79D	1N	2	C	2253	1.94	2.17			
PALE	21	2247E	2329	2247U	S16	E14	.453	12040	23.0	42D	-B	2	V		1.24				SDE
GRP46220	22	0619	0639	0623	N15	E78	.933	12045	27.5	20	-F				1.03				2 2 2 5
ATHN	22	0619	0643	0623	N15	E74	.955	12045	27.0	24	1F	2	C		1.65				F
CRON	22	0622E	0634	0622U	N14	E65	.900	12048	27.1	12D	-N	3	V	0622	.40				
GRP46221	22	0808	0822	0802	S12	W25	.528	12039	20.5	22	-F				1.08				3 2 2 9
CRON	22	0759E	0805		S12	W25	.520	12039	20.5	6D	-F	3	V		.60				
ATHN	22	0759	0816	0803	S12	W36	.650	12039	19.6	17	-N	3	C		.86				DE
MONT	22	0800	0839	0802	S11	W25	.511	12039	20.5	39	-N		C	0802	1.55				
GRP46227	22	1022	1124	1056	S05	E56	.848	12044	26.6	62	1N				3.45				7 6 6 10
CATA	22	1020	1215	1105	S07	E54	.826	12044	26.5	115	2B		C	1105	3.48	6.16		(234)	
MONT	22	1024	1129D	1054	S04	E54	.819	12044	26.5	65D	1B		C	1054	2.58				
RANY	22	1044E	1122	1048	S04	E57	.848	12044	26.7	38D	1N	2	C		1.76				F
WEND	22	1046E	1124		S03	E58	.855	12044	26.8	38D	2N		P		0.88				C
CANR	22	1047E	1128	1100U	S05	E58	.858	12044	26.8	33D	1F	2	C	1100	2.47	4.83			
ATHN	22	1048E	1119D	1054	S08	E57	.855	12044	26.7	31D	1N	1		1054	2.36	3.42			
CANR	22	1058E	1058D		S05	E58	.858	12044	26.8		1N	2	V	1058	1.60				
MCMA	22	1205E	1326D		S05	E52	.802	12044	26.4	63D	1N		C	1209	1.29	2.20			BFK
46227	22	1005	1026	1010	S05	E56	.858	12044	26.8	23	*-N				1.97				4 4 4 8
ATHN	22	1004E	1027	1011	S06	E57	.851	12044	26.7	23D	-N	1		1011	1.82	1.46			
MONT	22	1004	1024	1009	S04	E58	.857	12044	26.8	20	-N		C	1009	1.86				
CAPS	22	1006	1133		S05	E55	.831	12044	26.5	87	-B	2	P	1008	1.88	1.70		(256)	
WEND	22	1014E	1034D		S03	E60	.872	12044	26.9	20D	1N		P		4.00				B
GRP46229	22	1603	1635	1607	S04	E43	.699	12044	25.9	32	--F				.44				2 2 2 3
MCMA	22	1600E	1650D	1607	S05	E43	.702	12044	25.9	50D	-F		C	1607	.72	1.80			E
BOUL	22	1606	1620	1606	S03	E42	.683	12044	25.8	14	-F	3	V	1606	.15	.25			
GRP46230	22	1649	1711	1653	S05	E55	.831	12044	26.8	22	-N				1.46				4 4 4 4
BOUL	22	1648	1715	1652	S06	E53	.814	12044	26.7	27	1N	2	C	1652	2.58	2.58			
RANY	22	1648	1702D	1655	S04	E55	.829	12044	26.8	14D	-N	3	C		1.21				F
MCMA	22	1649	1805	1655	S04	E54	.819	12044	26.8	76	-N		C	1655	.83	1.48			E
CANR	22	1649	1706	1651	S04	E56	.838	12044	26.9	17	-N	1	V	1650	1.20	2.04			
GRP46232	22	1908	1920	1912	S06	E58	.783	12044	26.5	12	-F				.59				2 2 2 3
MCMA	22	1908	1918	1909	S06	E48	.762	12044	26.4	10	-N		C	1909	.72	1.10			E
PALE	22	1912D	1921	1914U	S05	E52	.802	12044	26.7	9D	-F	3	V		.46				F
234 MCMA	22	2120	2138D		S06	E45	.728	12044	26.3	18D	--F		C	2125	.62	.90			EK 1
	22	2201	2220	NO FLARE PATROL															
235 PALE	22	2347E	2357	2348U	S05	E54	.821	12044	27.8	10D	--F	2	V		.36				F 3
	23	0227	0233	NO FLARE PATROL															
236 TEHR	23	0308E	0318	0311U	N08	E70	.936	12046	28.4	10D	--N	3	V		.89				DE 3
237 CRON	23	0451E	0496		N08	E76	.967	12046	28.9	5D	--N	3	V		.35				2
GRP46238	23	0643	0652	0644	N08	E73	.953	12046	28.8	9	--F				.29				3 3 3 6
ATHN	23	0643	0652	0645	N08	E73	.953	12046	28.8	9	-F	2	C		.33				DE
TEHR	23	0643E	0650	0643U	N08	E70	.936	12046	28.5	7D	-F	3	V		.19				DE R
CRON	23	0644E	0655		N08	E75	.962	12046	28.9	11D	-F	3	V		.35				
GRP46243	23	0820	0841	0824	S06	E43	.705	12044	26.6	21	--N				.56				8 8 7 10
CATA	23	0815E	0820D	0820	S06	E42	.693	12044	26.5	5D	-B		P	0820	.58	.80		(214)	
MONT	23	0816	0844	0827	S05	E45	.725	12044	26.7	28	-N		C	0827	.41				
ATHN	23	0822	0845	0825	S06	E43	.705	12044	26.6	23	-N	2	C		.58				F
TEHR	23	0823	0838	0825	S07	E43	.709	12044	26.6	15	-N	4	V		.19				F
ISTA	23	0823	0841		S06	E44	.717	12044	26.6	18	-F								E
ARCE	23	0824E	0848D		S05	E43	.702	12044	26.6	16D	-N		C	0838	.54	.80			
CRON	23	0824E	0837		S05	E43	.702	12044	26.6	13D	-N	3	V		.45				
CAPF	23	0825E	0835D		S05	E42	.690	12044	26.5	10D	-N		P	0838	1.24	1.60			

SOLAR FLARES
Confirmed
SEPTEMBER 1972

OBSERVATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1972 SEP	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MONATH PLAGE REGION	CMP DAY			COND.	TYPE	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP46244	23	1008	1027	1012	S06	E42	.693	12044	26.6	19	-B				1.47				6 6 6 6
MONT	23	0947	1026	1011	S06	E39	.657	12044	26.3	39	1B		C	1011	2.58				
CANR	23	1003E	1030	1013	S05	E45	.725	12044	26.8	27D	-N				1.88				
TEHR	23	1008	1026	1012	S06	E40	.669	12044	26.4	18	-B	4	V		1.21				F
CAPF	23	1010E	1020D		S05	E41	.678	12044	26.5	10D	1N		P	1012	2.86	2.88			
CAPS	23	1010	1022		S05	E45	.725	12044	26.8	12	-B	3	V	1013	1.88	1.48		(228)	
ATHN	23	1012E	1032	1013	S07	E40	.673	12044	26.4	20D	-N	3	V		.99				F
GRP46245	23	1123	1155	1128	S06	E32	.566	12044	25.9	32	--N				.87				5 4 4 6
MONT	23	1101	1200	1131	S05	E31	.547	12044	25.8	59	-N		C	1131	1.86				
ATHN	23	1122	1144	1124	S08	E32	.577	12044	25.9	22	-N	3	V		.66				DE
RAMY	23	1122	1151	1128	S05	E30	.534	12044	25.7	29	-F	2	C		.56				DE
CAPS	23	1126	1200		S06	E35	.606	12044	26.1	34	-N	3	V	1129	.48	.58		(196)	C
HUAN	23	1158E	1158D		S05	E31	.547	12044	25.8		-F	1	P						E
GRP46249	23	1349	1401	1354	S11	W31	.584	12039	21.3	12	--F				.91				2 2 2 5
CAPS	23	1349	1400		S11	W30	.572	12039	21.3	11	-F	3	V	1356	1.38	1.58		(168)	
HUAN	23	1349	1401	1354	S11	W32	.596	12039	21.2	12	-F	1	C	1354	.52	.64			E
GRP46250	23	1527	1544	1530	S06	E39	.657	12044	26.6	17	--N				.66				3 3 3 4
CAPS	23	1527	1548		S05	E42	.698	12044	26.8	21	-N	3	V	1530	.68	1.08		(196)	C
RAMY	23	1528E	1540	1530U	S05	E36	.614	12044	26.3	12D	-F	3	V		.72				DE
ATHN	23	1529E	1543	1530	S09	E39	.670	12044	26.6	14D	-N	1	V		.66				F
GRP46251	23	1618	1634	1622	S05	E28	.586	12044	25.8	16	--F				.44				2 2 2 3
RAMY	23	1617	1634	1622	S05	E28	.586	12044	25.8	17	-F	3	C		.46				DE
HUAN	23	1619	1631D		S05	E28	.586	12044	25.8	12D	-N	1	P	1623	.41	.48			E
GRP46253	23	1747	1800	1751	S06	E38	.644	12044	26.0	13	--F				.43				2 2 2 3
RAMY	23	1747	1759	1750	S06	E35	.606	12044	26.4	12	-F	3	V		.41				DE
PALE	23	1749E	1801	1751U	S05	E40	.665	12044	26.7	12D	-N	2	C		.45				F
254 BOUL	23	2243	2257	2246	S14	W13	.417	12040	23.0	14	--F	2	V	2246	.58	.51			3
255 BOUL	23	2255	2308	2258	S14	W36	.662	12039	21.3	13	--F	2	V	2258	.40	.48			3
GRP46258	23	2342	2351	2344	S16	W13	.444	12040	23.0	9	--F				.35				2 2 2 5
CRON	23	2341	2347	2342	S17	W12	.451	12040	23.1	6	-F	3	V		.48				
BOUL	23	2342	2355	2345	S14	W13	.417	12040	23.0	13	-F	3	V	2345	.38	.36			
GRP46259	24	0028	0128	0037	S19	W15	.499	12040	22.9	52	-B				1.58				2 2 2 2
CRON	24	0028	0118	0037U	S18	W15	.486	12040	22.9	42	-N	3	V	0037	1.48				
CRON	24	0028	0118	0038	S18	W14	.478	12040	23.0	42	-N	3	V	0038	.88				
VORO	24	0106E	0129		S19	W15	.499	12040	22.9	23D	-B		C	0106	1.75	1.97	1.06	69	EJ
260 CRON	24	0406E	0412	0406U	N14	E87	.997	12051	30.7	6D	-N	3	V	0406	.35				2
GRP46266	24	1023	1041	1029	S09	E19	.419	12044	25.9	18	--N				.51				3 3 3 3
TEHR	24	1023	1038	1025	S14	E21	.494	12044	26.0	15	-N	4	V		.64				F
ATHN	24	1026E	1048	1028	S06	E18	.377	12044	25.8	14D	-N	1		1028	.52	.58			
RAMY	24	1033E	1044	1035U	S06	E17	.364	12044	25.7	11D	-F	1	C		.37				DE
GRP46267	24	1041	1051	1043	S11	E29	.559	12044	26.6	10	--F				.21				2 2 2 3
TEHR	24	1041	1050	1042	S14	E29	.582	12044	26.6	9	-F	4	V		.88				F
ATHN	24	1041	1052	1044	S07	E29	.532	12044	26.6	11	-N	1		1044	.34	.33			
GRP46268	24	1104	1111	1106	S14	W21	.494	12040	22.9	7	--N				.36				2 2 2 6
RAMY	24	1104	1111	1106	S13	W20	.472	12040	23.0	7	-N	2	C		.38				DE
ATHN	24	1105E	1118	1106	S14	W22	.504	12040	22.8	9D	-N	1		1106	.34	.35			
GRP46269	24	1237	1305	1252	S06	E33	.579	12044	27.0	28	-B				.79				3 3 3 3
HUAN	24	1235	1249	1246U	S06	E33	.579	12044	27.0	14	-N	2	C	1246	.46	.57			E
RAMY	24	1239	1302	1253	S07	E33	.585	12044	27.0	23	-B	3	C		.65				DE
RAMY	24	1239	1302	1244	S07	E33	.585	12044	27.0	23	-N	3	C		.46				DE
ATHN	24	1250E	1312	1250	S06	E33	.579	12044	27.0	22D	-N	1		1250	.85	.88			
HUAN	24	1252	1300	1253	S06	E33	.579	12044	27.0	8	-B	2	C	1253	.88	1.87			E
HUAN	24	1309	1315	1310	S06	E34	.592	12044	27.1	6	-F	2	C	1310	.15	.19			D
270 HUAN	24	1405	1416	1408U	S11	E90	1.000	12049	1.3	11	--F	2	C	1408	.31				3
GRP46271	24	1545	1553	1546	S04	E33	.570	12044	27.1	8	--N				.31				2 2 2 3
BOUL	24	1544	1556	1545	S03	E33	.565	12044	27.1	11	-N	2	V	1545	.35	.55			
HUAN	24	1545	1551	1546	S04	E32	.556	12044	27.1	6	-N	2	C	1546	.26	.31			DH
GRP46272	24	1631	1643	1635	S04	E31	.542	12044	27.0	12	--N				.32				2 2 2 3
BOUL	24	1630	1643	1634	S03	E31	.538	12044	27.0	13	-N	2	C	1634	.32	.38			
HUAN	24	1632	1643	1635	S05	E31	.547	12044	27.0	11	-N	1	C	1635	.31	.37			E
273 HUAN	24	1806	1812	1807	N10	E51	.771	12046	28.6	6	--F	1	C	1807	.31	.46			E 3

SOLAR FLARES
Confirmed
SEPTEMBER 1972

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1972 SEP	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
274 PALE	24	1913	1919	1915	S15	W23	.525	12048	23.1	6	--N	2	C		.45				F 1
275 PALE	24	1929	1942D	1936U	S05	E20	.395	12044	26.3	130	--F	2	C		.36				F 1
	24	2120	2203	NO FLARE PATROL															
	25	0131	0142	NO FLARE PATROL															
	25	0209	0301	NO FLARE PATROL															
276 MANI	25	0314	0321	0317	S07	E25	.478	12044	27.0	7	--N	2		0317	.52	.59			1
	25	0321	0329	NO FLARE PATROL															
	25	0333	0408	NO FLARE PATROL															
	25	0424	0439	NO FLARE PATROL															
GRP46277	25	0604	0648	0614	S17	W26	.576	12040	23.3	36	-F				1.38				4 4 4 6
CATA	25	0600E	0650	0620	S18	W19	.518	12040	23.8	50D	-N		P	0620	1.16	1.35		(178)	
ABST	25	0608	0630	0613	S16	W28	.588	12040	23.2	22	1F		C	0613	2.25	2.80			E
CRON	25	0610E	0638	0610U	S15	W28	.579	12040	23.2	28D	-F	3	V	0610	1.10				
TEHR	25	0611E	0640	0611U	S17	W28	.596	12040	23.2	29D	-N	2	V		1.80				F
GRP46280	25	1043	1104	1047	S10	E79	.986	12049	1.4	21	--F				.35				2 2 2 4
ATHN	25	1043	1109	1046	S11	E79	.987	12049	1.4	26	-F	3	C		.33				DE
TEHR	25	1047E	1058	1047U	S08	E78	.982	12049	1.3	11D	-N				.37				F
GRP46281	25	1240	1251	1241	S05	E11	.288	12044	26.4	11	--B				.84				4 4 4 6
RAMY	25	1238	1255	1242	S05	E11	.280	12044	26.4	17	-N	3	V		1.83				DE
RAMY	25	1238	1253	1242	S05	E11	.280	12044	26.4	15	-N	3	C		.93				DE
CAPS	25	1240	1251		S05	E11	.280	12044	26.4	11	-B	1	V	1243	.70	.70		(220)	
ARCE	25	1240E	1250D		S04	E10	.256	12044	26.3	10D	-N		C	1245	.75	.80			
CATA	25	1240	1258	1240	S05	E10	.269	12044	26.3	18	-B		C	1240	.87	.90		(204)	
GRP46283	25	1343	1400	1351	S09	E79	.986	12049	1.5	17	--F				.24				2 2 2 6
HUAN	25	1343	1359	1351U	S08	E80	.988	12049	1.6	16	-F	2	C	1351	.15				0
ATHN	25	1348E	1401	1351	S10	E78	.983	12049	1.4	13D	-F	3	V		.33				DE
284 RAMY	25	1635	1653	1637	S06	E10	.282	12044	26.4	18	--N	3	C		.48				DE 3
285 RAMY	25	1658E	1703	1700	S10	W72	.960	12039	20.3	5D	-N	3	V		.50				DE 3
286 RAMY	25	1702	1716	1709	S05	E09	.258	12044	26.4	14	--F	3	C		.65				DE 3
	25	1742	1806	NO FLARE PATROL															
GRP46287	25	1807	1818	1808	S06	E07	.254	12044	26.3	11	--N				.29				2 2 2 2
PALE	25	1807E	1820	1808	S07	E03	.247	12044	26.0	13D	-N	2	V		.26				F
HUAN	25	1818E	1815		S05	E11	.280	12044	26.6	5D	-N	1	P	1811	.31	.32			E
	25	1837	1847	NO FLARE PATROL															
288 RAMY	25	1942	1948	1945	S06	E07	.254	12044	26.3	6	--F	4	V		.66				DE 2
289 PALE	25	2147E	2159D	2148	S05	E09	.258	12044	26.6	12D	--B	2	C		.55				F 2
GRP46290	25	2228	2302	2250	S05	W02	.210	12044	25.8	34	--F				.54				2 2 2 2
PALE	25	2228E	2249D	2249U	S05	W02	.210	12044	25.8	21D	-F	2	C		.46				F
PALE	25	2242	2244D	2244U	S05	E01	.208	12044	26.8	2D	-F	2	V		.41				F
MANI	25	2246E	2302	2251	S05	W03	.214	12044	25.7	16D	-F	1		2251	.62	.64			
GRP46292	25	2320	2333	2324	S08	E08	.292	12044	26.6	13	--N				.73				2 2 2 3
PALE	25	2320E	2325D	2322	S08	E08	.292	12044	26.6	5D	-N	2	V		.62				F
MANI	25	2322E	2333	2325	S07	E07	.269	12044	26.5	11D	-N	1		2325	.83	.86			
GRP46293	26	0021	0040	0023	N16	W41	.658	12058	22.9	19	--F				.56				2 2 2 3
MANI	26	0028	0040	0023	N15	W42	.668	12058	22.9	20	-F	2		0023	.41	.56			
CRON	26	0021	0039		N17	W40	.647	12058	23.0	18	-N	3	V		.70				
GRP46294	26	0148	0245	0157	S06	E07	.254	12044	26.6	57	1B				2.35				4 3 3 4
CULG	26	0144	0247	0224	S05	E05	.224	12044	26.4	57	2N			0224	9.00				
HITK	26	0147	0256	0158	S05	E07	.239	12044	26.6	69	1B		C	0158	2.48	2.60			FHK
MANI	26	0148	0232	0156	S06	E07	.254	12044	26.6	44	1B	2		0156	2.06	2.14			
CRON	26	0156E	0246	0224	S06	E06	.246	12044	26.5	50D	1N	2	V		2.50				
CRON	26	0156E	0246		S06	E06	.246	12044	26.5	50D	-N	2	V		1.50				
295 CULG	26	0453	0517	0511	S13	E66	.931	12049	1.2	24	1N			0511	.70				1

SOLAR FLARES
Confirmed
SEPTEMBER 1972

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1972 SEP	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP46297	26	0625	0635	0630	S07	E02	.243	12044	26.4	10	--N				.48				2 2 2 6
TEHR	26	0625	0639	0629U	S05	E02	.210	12044	26.4	14	-N	4	V		.37				F
CATA	26	0625	0630	0630	S08	E01	.258	12044	26.3	5	-N		C	0630	.58	.68		(155)	
GRP46299	26	0714	0733	0717	S05	W07	.239	12044	25.6	19	--N				.78				5 4 4 8
TEHR	26	0713	0741	0718	S04	W06	.216	12044	25.9	28	-N	4	V		.46				F
CRON	26	0714E	0736	0716	S05	W07	.239	12044	25.8	22D	-N	3	V		.80				
ABST	26	0715	0722	0717	S07	W08	.277	12044	25.7	7	-F		C	0717	1.07	1.18			E
BUCA	26	0715	0724		S04	W07	.224	12044	25.8	9	-N		P	0717	.77	.88			
WEND	26	0735	0743		S05	W06	.231	12044	25.9	8	-N								
GRP46300	26	0809	0841	0820	S17	W42	.742	12040	23.2	32	2F				5.88				2 2 2 5
WEND	26	0808E	0842		S18	W43	.757	12040	23.1	34D	2F		P		8.80				
WEND	26	0808	0832		S18	W38	.708	12040	23.5	24	-N								
CATA	26	0810	0840	0820	S15	W43	.742	12040	23.1	30	2N		C	0820	3.76	5.62		(191)	
GRP46302	26	1200	1225	1204	S05	W10	.268	12044	25.8	25	--F				.93				3 2 2 5
RAMY	26	1159	1219	1205	S04	W10	.255	12044	25.7	20	-F	3	C		1.83				DE
ATHN	26	1200	1212D	1203	S05	W10	.268	12044	25.8	12D	-N	2	C		.83				F
CATA	26	1205	1225	1215	S04	W12	.279	12044	25.6	20	-N		C	1215	.75	.78		(155)	
303 RAMY	26	1447	1508	1501	S16	W46	.777	12040	23.2	21	--F	4	C		.37				DE 3
304 RAMY	26	1449	1455	1451U	S14	W50	.807	12040	22.9	6	--F	4	V		.33				DE 3
306 HUAN	26	1550	1601D	1552	S18	W48	.804	12040	23.1	11D	--F	1	C	1552	.41	.69			E 3
GRP46307	26	2009	2027	2012	S10	E57	.859	12049	1.1	18	--F				.36				2 2 2 3
HUAN	26	2009	2027	2011	S10	E56	.851	12049	1.0	18	-F	1	C	2011	.36	.66			E
PALE	26	2012E	2016D	2012U	S10	E58	.868	12049	1.2	4D	-N	2	C		.36				
GRP46308	26	2224	2246	2234	S05	W15	.328	12044	25.8	22	--B				.84				3 3 3 3
PALE	26	2224	2249	2230	S06	W15	.338	12044	25.8	25	-B	3	C		.99				H S
CRON	26	2235E	2248	2235U	S04	W15	.318	12044	25.8	13D	-N	2	V	2235	.60				
MANI	26	2237E	2242	2237	S05	W16	.341	12044	25.7	5D	-B	2		2237	.93	.98			
GRP46309	27	0804	0819	0809	S06	W12	.302	12044	26.4	15	--N				.63				5 5 4 6
ARCE	27	0802E	0820D		S07	W13	.326	12044	26.4	18D	-N		C	0806	.51	.58			H
ABST	27	0803	0828	0808	S08	W15	.368	12044	26.2	17	-F		C	0808	1.07	1.18			D
ISTA	27	0807	0820		S03	W05	.192	12044	27.0	13	-N								D
CRON	27	0810E	0816	0810U	S07	W12	.315	12044	26.4	6D	-N	3	V	0810	.35				
CATA	27	0818E	0818D	0810	S07	W14	.337	12044	26.3		-N		P	0810	.58	.61		(191)	
GRP46310	27	0946	0955	0949	S08	W12	.327	12044	26.5	9	--N				.66				2 2 2 4
ATHN	27	0945	0955	0948	S07	W14	.337	12044	26.4	10	-N	2	C		.66				F
TEHR	27	0947	0954	0950	S08	W10	.308	12044	26.7	7	-N	4	V		.65				DE
311 ATHN	27	1113	1120	1115	S11	E48	.777	12049	1.1	7	--F	2	C		.33				DE 4
312 ATHN	27	1136	1215	1152	S19	W61	.909	12040	22.9	37	1F	2	C		1.65				F H 3
GRP46314	27	1918	1948	1927	S10	E42	.709	12049	1.0	30	--F				.58				3 3 3 4
MCMA	27	1916	1958D	1925	S10	E42	.709	12049	1.0	34D	-F		C	1925	.72	1.00			E
HUAN	27	1920	1938D		S10	E42	.709	12049	1.0	18D	-F	1	C	1924	.41	.58			ET
PALE	27	1928E	1946	1928U	S10	E41	.697	12049	30.9	18D	-F	2	C		.36				F
	27	2353	0001	NO FLARE PATROL															
GRP46318	28	1231	1239	1234	S07	W34	.597	12044	26.0	8	--N				.43				3 3 3 5
HUAN	28	1231	1238	1233	S07	W34	.597	12044	26.0	7	-F	1	C	1233	.26	.32			
RAMY	28	1231	1239	1233	S06	W34	.592	12044	26.0	8	-N	4	C		.37				DE
ATHN	28	1233E	1240	1235	S08	W34	.602	12044	26.0	7D	-N	2	V		.66				F
GRP46321	28	1403	1410	1403	S05	W37	.626	12044	25.8	7	--F				.38				2 2 2 6
RAMY	28	1402	1410	1403	S05	W37	.626	12044	25.8	8	-N	4	C		.28				DE
HUAN	28	1403	1406U		S05	W37	.626	12044	25.8	3D	-F	1	P	1405	.31	.48			E
GRP46322	28	1436	1447	1437	S08	E29	.537	12049	30.8	11	--N				.42				2 2 2 3
RAMY	28	1436E	1447	1437	S07	E26	.491	12049	30.6	11D	-N	4	V		.52				DE
HUAN	28	1437E	1447		S09	E31	.570	12049	30.9	10D	-N	1	P	1438	.31	.38			C
GRP46324	28	1724	1739	1725	S07	W37	.635	12044	26.0	15	--F				.21				2 2 2 3
HUAN	28	1722	1728	1724	S08	W37	.648	12044	25.9	6	-F	1	C	1724	.21	.27			D
BOUL	28	1726	1749	1726	S06	W36	.618	12044	26.0	23	-F	2	V	1726	.20	.20			
325 HUAN	28	1753	1802	1756	N21	E90	.999	12057	5.5	9	--F	1	C	1756	.21				3
327 HUAN	28	1824	1831		N27	E90	.999	12057	5.5	7	--F	1	C	1825	.15				D 3

SOLAR FLARES
Confirmed
SEPTEMBER 1972

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE	START	END	MAX. PHASE	APPROX. LAT.	APPROX. LNG. DIST.	CENTRAL DISTANCE	HEMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg	MAX. INT. %	
	1972 SEP																		
326 PALE	28	2144	2147	2145	S08	W48	.676	12044	25.9	3	--F	2	C		.36				F 2
	28	2400	0003	NO FLARE PATROL															
GRP46329	29	0102	0115	0104	S04	W36	.609	12044	26.3	13	--F				.31				2 2 2 2
PALE	29	0101	0118	0105	S05	W37	.626	12044	26.3	9	-F	2	C		.19				
HANI	29	0102E	0119	0104	S03	W36	.605	12044	26.3	17D	-F	1		0104	.41	.51			
PALE	29	0102E	0110	0104	S03	W35	.592	12044	26.4	8D	-N	2	V		.21				
332 CATA	29	1035	11380	1105	S09	E18	.405	12049	30.8	55D	--F		C	1105	.46	.58		(145)	4
GRP46333	29	1238	1238	1232	S06	W51	.793	12044	25.7	8	--F				.74				2 2 2 4
ABST	29	1229	1240	1233	S06	W52	.803	12044	25.6	11	-F		C	1233	.98	1.58			D
CATA	29	1238	1235	1238	S05	W50	.780	12044	25.8	5	-N		C	1238	.58	.92		(208)	
GRP46334	29	1405	1416	1409	S05	W51	.791	12044	25.8	11	-N				.79				2 2 2 5
CATA	29	1405	1415	1410	S04	W51	.788	12044	25.8	10	-N		C	1410	.75	1.22		(155)	
ATHN	29	1405E	1416	1407	S06	W50	.783	12044	25.8	11D	-N	2	V		.83				DE
335 BOUL	29	1745	1815	1745	S03	W38	.632	12044	26.9	30	--F	2	V	1745	.18	.28			2
336 PALE	29	2137E	2154	2138	N12	E39	.626	12056	2.8	17D	--F	2	C		.19				2
337 BOUL	29	2208	2223		N12	E41	.653	12056	3.0	23	--F	2	V	2208	.38	.39			2
338 BOUL	29	2208	2223		N12	E41	.653	12056	3.0	23	--F	2	V	2214	.38	.39			2
339 HITK	30	0009	00380	0014	N10	E38	.612	12056	2.9	21D	--F		C	0014	1.34	1.78			E 2
340 HITK	30	0150	0156	0151	N11	E36	.585	12056	2.8	6	-N		C	0151	.93	1.28			E 3
GRP46341	30	0535	0551	0540	S05	W48	.759	12044	26.0	16	--N				.53				3 3 3 6
HANI	30	0532	0553	0538	S06	W48	.761	12044	26.0	21	-N	1		0538	.41	.64			
ATHN	30	0537	0552	0548	S06	W51	.793	12044	26.4	15	-N	2	C		.99				F
TEHR	30	0542E	0548	0542U	S03	W44	.707	12044	26.9	6D	-N	4	V		.19				DE
GRP46343	30	0747	0821	0748	S05	W56	.848	12044	26.1	34	-N				1.31				7 6 6 8
MONT	30	0748	08010	0748	S04	W55	.829	12044	26.2	21D	-N		C	0748	.52				
ATHN	30	0743	0818	0747	S04	W57	.847	12044	26.0	35	-N	2	C		.58				F
BUCA	30	0744	0840		S04	W55	.829	12044	26.2	56	-N		C	0748	.36	.68			
CAPS	30	0745	0810		S04	W56	.836	12044	26.0	25	-B	3	V	0750	.58	1.08		(278)	C
TEHR	30	0745E	0805	0745U	S03	W44	.707	12044	27.0	20D	-N	4	V		1.82				F
WENO	30	0754E	0817		S05	W52	.881	12044	26.4	23D	1N		P		4.88				
KODA	30	0757	07580		S09	W58	.865	12044	26.0	1D	-N		S	0757	1.99	2.88	1.72		E
347 PALE	30	2043	2113	2045	N12	E38	.581	12056	3.1	30	--N	2	C		.17				H 2
348 PALE	30	2206	22180	2207	N12	E29	.486	12056	3.1	4D	--N	2	C		.17				2

In the importance column "--" signifies the subflare has been confirmed by the NOAA grouping program but is not included in the I.A.U. Quarterly Bulletin on Solar Activity. These subflares are also not included in the Flare Index below.

DAILY FLARE INDICES

Date	Flare Index	HR OBS	Date	Flare Index	HR OBS	Date	Flare Index	HR OBS
720901	5.57	21.8	720910	13.19	23.6	720922	87.66	23.7
720902	64.51	16.9	720911	51.71	24.0	720923	11.48	23.9
720903	19.51	19.7	720913	47.54	23.6	720924	17.12	23.3
720904	9.43	22.7	720914	0.00	22.4	720925	11.56	21.5
720905	58.56	22.0	720916	0.23	24.0	720926	214.21	24.0
720906	135.72	23.2	720917	9.48	24.0	720927	14.37	23.9
720907	9.75	24.0	720918	5.06	23.9	720928	0.00	24.0
720908	4.45	24.0	720919	18.61	24.0	720929	3.29	24.0
720909	1.32	24.0	720921	36.53	24.0	720930	13.62	24.0

When no Flare Index is given, it is 0 for that day.

SOLAR FLARES
Unconfirmed
SEPTEMBER 1972

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION — MIN.	IM-POR-TANCE	OBS.		MEASUREMENTS					REMARKS
	DATE	START	END	MAX. PHASE	APPROX. LAT.	APPROX. HER. DIST.	CENTRAL DISTANCE	HEMATH PLAGE REGION	CMP DAY			CONO.	TYPE	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg	MAX. INT. %	
978 HANI	01	0807E	0815	0808	S27	E37	.761	12014	3.8	8D	-F	2		0808	.41	.64			4
979 TEHR	01	0257E	0302	0258U	N16	E16	.388	12011	2.3	5D	-N				.09				DE 8
980 PALE	01	0307	0318D	0309	N18	E22	.373	12011	2.8	11D	-N								8
GRP45983	01	0658	0718	0701	S09	W05	.998	12015	25.9	2B	-F				.68				2 2 2 7
TEHR	01	0658	0717	0701	S11	W01	.992	12015	26.2	19	-N				.46				F
ABST	01	0659E	0719	0701	S06	W09	1.000	12015	25.6	20D	1F		P	0701	.90				E
984 ATHN	01	0702E	0706	0703	N14	W74	.955	12008	26.7	4D	-F	3	V		.33				DE 7
GRP45986	01	1019	1037	1029	S10	W21	.455	12005	30.9	18	-B				.78				2 2 2 8
MONT	01	1019	1039	1027	S10	W21	.455	12005	30.9	20	-N		C	1027	.92				H
CATA	01	1038E	1035	1030	S09	W21	.446	12005	30.9	5D	-B		P	1030	.87	.97		(1209)	
987 ATHN	01	1343E	1352	1344	N17	E13	.276	12011	2.5	9D	-F	1		1344	.34	.33			5
988 HUAN	01	1549	1559	1553	S08	E43	.713	12016	4.9	10	-F	2	C	1553	.36	.50			E 4
991 ATHN	02	0535E	0541	0536	S08	E32	.578	12016	4.6	6D	-F								5
993 ATHN	02	0550E	0600	0553	N15	E13	.258	12011	3.2	10D	-N								4
994 MONT	02	0714	0729	0725	S09	W33	.597	12005	30.8	15	-N		C	0725	.52				8
995 ABST	02	0746E	0758D	0748	S09	E34	.618	12016	4.9	4D	-F		P	0748	1.26	1.68		69	E 6
997 MONT	02	0817	0829	0823	S09	W35	.622	12005	30.7	12	-N		C	0823	.41				8
GRP46010	02	1016	1040	1027	S08	W34	.604	12005	30.9	24	-N				.41				2 2 2 9
MONT	02	1016	1030	1023	S06	W28	.514	12005	31.3	14	-N		C	1023	.72				
MONT	02	1029	1044	1032	S09	W36	.634	12005	30.7	15	-N		C	1032	.41				
TEHR	02	1038E	1035	1030U	S07	W33	.586	12005	31.0	5D	-N				.09				DE
MONT	02	1044	1121	1050	S12	W37	.663	12005	30.7	37	-N		C	1050	.41				
011 MONT	02	1114	1124D	1121	S09	W37	.646	12005	30.7	18D	-N		C	1121	.41				7
017 PALE	03	0256	0310	0259	S15	E85	.999	12025	9.5	14	-F								7
022 KODA	04	0246	0400	0254	S09	W59	.875	12005	30.7	74	2N		V	0246	5.49	9.58	1.92		2
023 PALE	04	0306E	0313D	0307	N17	E05	.109	12011	4.5	7D	-F								4
024 TEHR	04	0455	0500	0457	S07	W59	.871	12005	30.8	5	-F								5
025 MONT	04	0925	0933	0928	S08	W62	.896	12005	30.7	8	-F		C	0928	.21				11
026 MONT	04	0939	0959	0944	S08	W62	.896	12005	30.8	28	-N		C	0944	.21				10
027 ATHN	04	1008	1032	1017	S07	W62	.895	12005	30.8	24	-F								9
028 MONT	04	1046E	1053D	1051	S08	W62	.896	12005	30.8	7D	-N		C	1051	.41				9
GRP46025	04	1103	1138	1114	S08	W63	.904	12005	30.7	27	-N				.41				2 1 1 7
MONT	04	1103E	1138D	1114	S08	W63	.904	12005	30.7	27D	-N		C	1114	.41				
RAMY	04	1128	1145	1130	S06	W62	.893	12005	30.8	17	-F								
030 RAMY	04	1242	1300D	1245	S06	W62	.893	12005	30.9	18D	-F								6
031 RAMY	04	1338	1343	1332	S06	W63	.901	12005	30.8	13	-F								5
037 PALE	04	2328E	2336D	2329	S05	W65	.914	12005	31.1	8D	-F								3
038 HANI	05	0106E	0114	0108	S08	W79	.985	12009	30.1	8D	-F	1		0108	.52	1.38			3
040 ATHN	05	0631	0638	0633	S10	W80	.989	12005	30.3	7	-F	2	C		.33				DE 7
042 MONT	05	0808	0910	0814	N13	W18	.319	12011	4.8	62	-N		C	0814	.72				7
043 MONT	05	0814	0816	0814	S16	W30	.812	12022	3.1	2	-N		C	0814	.41				7
GRP46045	05	0947	1006	0954	S06	W71	.951	12005	31.1	19	-N				.41				2 2 1 8
WEND	05	0944	0958		S04	W70	.944	12005	31.2	14	-N								
MONT	05	0949	1013	0954	S08	W71	.953	12005	31.1	24	-N		C	0954	.41				
046 ATHN	05	1118E	1135	1121U	S01	W90	1.000	12005	29.7	17D	-F	2	V						DE 5
047 RAMY	05	1349	1406	1351	N15	W28	.368	12011	4.1	17	-F	3	C		.58				DE 8

SOLAR FLARES
Unconfirmed
SEPTEMBER 1972

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE	START	END	MAX. PHASE	APPROX. LAT.	APPROX. HER. DIST.	CENTRAL DISTANCE	MONATH PLAGE REGION	CMP DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg	MAX. INT. %	
GRP46049	05	1442	1455	1442	S07	W76	.975	12005	30.9	13	-F				.26				2 2 1 8
RAMY	05	1442E	1457	1442U	S07	W73	.962	12005	31.1	15D	-F	4	V		.26				DE
HUAN	05	1447	1452		S07	W78	.982	12005	30.8	5	-F	1	C						
052 HCMA	05	2008E	2048D		N13	W27	.457	12011	3.8	40D	-F		P	2008	.62	.78			E 4
057 SIBE	06	0216E	0305D		N12	W28	.469	12011	4.0	49D	1F		C	0219	2.67	3.20		53	TU 5
058 SIBE	06	0219E	0236D	0225	S08	W16	.376	12016	4.9	17D	1F		C	0225	4.17	4.40		53	T 3
GRP46060	06	0439	0504	0448	N13	W29	.486	12011	4.0	25	-F				1.68				2 2 2 8
SIBE	06	0439E	0505D	0453	N13	W28	.472	12011	4.1	26D	1F		P	0453	3.31	4.20		51	T
ATHN	06	0443E	0502	0443U	N13	W30	.501	12011	3.9	19D	-N	2	C		.84				DE
062 SIBE	06	0553E	0553D	0553	S08	W17	.387	12016	5.0		1F		P	0553	4.37	4.70		54	T 8
063 SIBE	06	0628	0627D		S06	W90	1.000	12005	30.5	7D	2F		V						T 6
GRP46064	06	0627	0645	0629	S08	W18	.399	12016	4.9	18	1F				3.13				2 2 2 6
SIBE	06	0627	0629D	0629	S08	W16	.376	12016	5.1	2D	2F		P	0629	5.76	5.90		53	T
CRON	06	0627E	0645		S08	W19	.412	12016	4.8	18D	-N	3	V		.58				
069 ATHN	06	1823E	1828	1823U	N18	W47	.731	12011	2.9	5D	-N	2	V		.33				DE 6
071 HUAN	06	1428	1433	1429U	S08	W23	.462	12016	4.9	5	-F	1	C						6
077 CRON	07	0355E	0358	0355U	S09	W34	.610	12016	4.8	3D	-F	3	V	0355	.58				8
078 ABST	07	0508E	0538	0521	S08	W36	.629	12016	4.5	30D	-F		P	0521	1.62	2.00			E 9
081 MONT	07	0758E	0818	0805	S09	W36	.634	12016	4.6	20D	-N		C	0805	.52				5
083 MONT	07	0925E	0937D	0932	S09	W37	.647	12016	4.6	12D	-N		C	0932	.52				9
084 MONT	07	0925E	0937D	0933	S07	E29	.534	12025	9.6	12D	-N		C	0933	.41				9
086 ATHN	07	1403	1428	1405	N17	E58	.763	12021	11.3	17	-F	1		1405	.34	.41			4
087 PALE	07	2055E	2058D	2055U	S15	W64	.922	12022	3.1	3D	-F	2	V		.52				F 3
089 SIBE	08	0457E	0532	0505	S07	W26	.494	12024	6.3	35D	1N		C	0505	2.99	3.30		86	E 5
090 SIBE	08	0458E	0537D	0507	N09	E39	.624	12021	11.1	39D	2F		C	0507	4.91	6.50		67	U 5
GRP46091	08	0541	0614	0542	N13	E39	.626	12021	11.2	33	1F				.50				2 2 1 5
ATHN	08	0541E	0551	0542	N17	E38	.620	12021	11.1	10D	-F	3	V		.50				DE
SIBE	08	0545	0636		N09	E39	.624	12021	11.2	51	2F								T
092 SIBE	08	0657E	0658D	0657	N09	E38	.611	12021	11.1	1D	1F		P	0658	2.40	3.10		55	CE 5
093 TEHR	08	0817	0821	0818	N19	E35	.587	12021	11.0	4	-N	3	V		.89				DE 7
094 RAMY	08	0946E	0956D	0946U	N17	E00	.169	12026	8.4	10D	-N	4	C		.66				DE 7
095 ATHN	08	1823E	1832D	1824	N12	W32	.528	12023	6.0	9D	-N	3	V		.33				DE 6
096 ATHN	08	1847	1109	1850	S04	W34	.584	12024	5.9	22	-F	3	V		.33				DE 7
098 CATA	08	1335	1408	1335	N13	W63	.884	12011	3.8	25	-N		C	1335	.29	.62		(186)	8
103 SIBE	09	0519E	0537D	0532	N09	E26	.435	12021	11.2	18D	1F		P	0532	2.45	2.80		715	CE 7
104 SIBE	09	0521E	0537D		N08	E04	.070	12026	9.5	16D	-F		P	0537	1.50	1.80		66	CD 7
105 SIBE	09	0522E	0537D		S06	W42	.694	12024	6.1	15D	1F		P	0537	2.89	4.00		65	CE 7
107 ATHN	09	0800	0812	0804	N16	W72	.944	12011	3.9	12	-F	2	C		.50				DE 9
108 SIBE	09	0824E	0849D		S06	W45	.729	12024	6.0	25D	1F		C	0846	2.77	3.90		55	C 6
109 ATHN	09	0838	0847	0841	N15	W89	.999	12011	2.7	9	-F	2	C						DE 9
110 ARCE	09	0910E	1002D		S08	E48	.769	12025	13.8	52D	-F		C	0956	.66	.90			7
112 MONT	09	1008E	1011D	1010	N13	W78	.973	12011	3.6	3D	-N		C	1010	.21				8
GRP46113	09	1025	1035	1026	N16	W89	.999	12011	2.8	10	-F				.21				2 2 1 7
ATHN	09	1025E	1035	1026	N18	W90	.999	12011	2.7	10D	-N	2	V						DE
MONT	09	1025	1030D	1026	N14	W88	.998	12011	2.8	5D	-F		C	1026	.21				

SOLAR FLARES
Unconfirmed

SEPTEMBER 1972

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		CONG.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Gs	MAX. INT. %	
114 MONT	09	1047	1053	1050	N18	W01	.187	12026	9.4	6	-N		C	1050	.21				7
115 MONT	09	1056	1118D	1100	N19	E21	.399	12021	11.0	14D	-N		C	1100	.21				8
116 MONT	09	1059	1108	1102	N15	W79	.977	12011	3.5	9	-N		C	1102	.41				8
GRP46117	09	1125	1285	1135	N17	W01	.983	12011	3.4	48	-N				.58				2 2 1 5
CAPS	09	1122	1220		N15	W90	.999	12011	2.7	58	1N	3	V						C
CANR	09	1127	1150	1135	N18	W72	.944	12011	4.1	23	-N	2	V		.58	1.38			
118 MCHA	09	1720E	1732		N10	W49	.749	12023	6.8	12D	-N		C	1725	.31	.58			E 5
119 CRON	09	2358E	0004	2359	N12	W53	.792	12023	6.0	6D	-N	3	V	2359	.25				3
120 CRON	10	0034	0041	0035	N12	W53	.792	12023	6.0	7	-F	3	V	0035	.20				4
121 CRON	10	0123	0147	0126	S13	E67	.937	12028	15.1	24	-N	3	V	0126	.45				3
122 CRON	10	0150E	0157	0152	N12	W53	.792	12023	6.1	7D	-F	3	V	0152	.45				4
GRP46123	10	0345	0357	0350	N10	W53	.793	12023	6.2	12	-F				.70				2 2 2 5
TEHR	10	0345	0357	0350	N09	W52	.782	12023	6.3	12	-N	3	V		.74				F
CRON	10	0349E	0357	0350	N11	W54	.803	12023	6.1	8D	-F	3	V	0350	.65				
124 ATHN	10	0553	0616	0556	S27	W80	.995	12014	4.2	23	-F	2	C		.33				DE 6
126 CAPS	10	0642	0747		S26	E90	1.002	12031	17.0	65	1N	3	V						6
127 ATHN	10	0718	0732	0721	N10	W59	.851	12023	5.9	14	-F	3	C		.33				DE 6
128 ATHN	10	0800E	0804	0800U	S25	E90	1.001	12031	17.1	4D	-N	3	V						DE 9
130 TEHR	10	1033	1038	1035	N09	W55	.813	12023	6.3	5	-F	3	V		.37				DE 7
131 ATHN	10	1058E	1108	1100	N13	W90	1.000	12011	3.7	10D	-N	3	V						DE 9
134 ABST	11	0508E	0505D	0508	S11	E86	.999	12030	17.7	5D	1F		P	0500	.90				8D 6
135 ATHN	11	0901	0909	0904	N10	W78	.934	12023	6.1	8	-F	3	C		.33				DE 8
137 MONT	11	1028	1036D	1029	N12	W71	.940	12023	6.1	8D	-N		C	1029	.21				8
138 ABST	12	0448E	0453D	0450	S05	W86	.998	12024	5.8	5D	1F		P	0450	.90				D 5
139 RAMY	12	1204	1220	1206	N22	W23	.448	12021	10.8	16	-F	3	C		.46				DE H 6
140 RAMY	12	1432	1506		S05	W90	1.000	12024	5.9	34	-F	3	C						DE 7
142 VORO	13	0227	0240	0229	N21	W35	.995	12021	10.5	13	-B		C	0229	1.38	1.67		66	DJ 6
144 MONT	13	0915E	0927	0919	S11	E25	.513	12028	15.3	12D	-N		C	0919	1.13				7
145 MONT	13	0923	0927	0924	S11	W19	.443	12025	12.8	4	-N		C	0924	.41				7
147 ATHN	13	1636	1649	1638	S08	W10	.312	12025	12.9	13	-N	0	C		.56				DE 4
151 KODA	15	0242	0259D	0245	S16	E90	1.001	12040	21.9	17D	1B		C	0245			4.00		R 5
153 SIBE	15	0314E	0411D	0321	S10	E25	.904	12030	17.0	57D	-F		C	0321	1.87	1.20		54	D 5
154 SIBE	15	0314E	0416D	0322	S12	W02	.331	12028	15.0	62D	1F		C	0322	2.25	2.20		53	D 6
155 SIBE	15	0314E	0416D	0331	N06	E40	.639	12034	18.1	62D	1F		C	0331	2.35	3.10		52	E 6
156 TEHR	15	0850	0922	0857	N10	W59	.851	12021	10.9	32	-F	3	V		.37				F 5
158 MANI	16	0320	0336	0324	N11	E39	.625	12035	19.1	16	-N	2		0324	.52	.66			4
160 MONT	16	0844	0858	0850	N06	E15	.258	12034	17.5	14	-N		C	0850	.41				7
161 ATHN	16	1456	1505	1500	S16	E90	1.001	12040	23.4	9	-N	3	C						DE 6
164 PALE	16	1810	1817	1813	S10	W44	.732	12028	13.5	7	-N	3	C		.27				4
167 ATHN	17	0738	0747	0740	N21	W83	.987	12021	11.1	9	-N	2	C		.33				DE 7
168 ATHN	17	0813	0839	0820	S13	W33	.622	12028	14.9	26	-F	2	C		.66				F 7
169 ATHN	17	0832E	0842	0833	S16	E57	.875	12040	21.6	10D	-N	3	V		.17				DE 5

SOLAR FLARES
Unconfirmed

SEPTEMBER 1972

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		OBSD.	TYPE	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Deg	MAX. INT. %	
173 BOUL	17	1741	1808	1741	N20	W90	.999	12821	11.8	19	-N	3	V						5
176 ATHN	18	0743E	0756	0743U	N14	W34	.568	12841	15.8	13D	-N	2	V		.66				F 8
177 HONT	18	0903	0910	0905	S17	E61	.906	12840	23.8	7	-N		C	0905	.52				6
178 CATA	18	1025E	1048	1030	S15	E59	.887	12840	22.9	15D	-N		P	1030	.87	1.88		(1510)	5
180 CANR	18	1330	1448	1400	N19	E06	.228	12835	19.8	78	*-N				1.58				5
182 HUAN	18	1534	1605D		S17	E58	.885	12840	23.8	31D	-F	1	C	1538	.26	.55			5
185 MCMA	19	1504E	1515		N06	W38	.497	12834	17.4	11D	-F		C	1504	.41	.58			E 5
187 CRON	19	2325	2330		S17	E39	.713	12840	22.9	5	-F	1	V		.40				3
188 HONT	20	0701	0712	0704	N06	W39	.626	12834	17.4	11	-N		C	0704	.41				5
189 HONT	20	0828	0834	0830	N06	W33	.542	12834	17.9	6	-N		C	0830	.41				8
190 HONT	20	0835	0842	0836	S06	E85	.997	12844	26.7	7	-N		C	0836	.21				8
192 HUAN	20	1558	1603		S05	E88	1.000	12844	27.3	13	-F	1	C						T 9
194 MCMA	20	1929	1945	1937	S08	E76	.982	12844	26.7	16	-F		C	1937					O 5
195 PALE	20	2018E	2016	2018U	S12	E32	.604	12840	23.2	6D	-F	2	V		.36				5
196 MCMA	20	2138	2147D		S11	W10	.353	12839	20.2	9D	-F		C	2145	.31	.38			E 4
197 PALE	20	2234E	2240	2236	S06	E76	.974	12844	26.6	6D	-F	2	C		.45				F 4
199 MANI	21	0822E	0829	0823	S05	E75	.969	12844	26.6	7D	-N	2		0823	.41	.98			4
200 PALE	21	0845E	0852D	0847	S11	W11	.361	12839	20.2	7D	-F	3	V		.41				F 4
204 ATHN	21	0702	0718	0703	N07	W53	.794	12834	17.3	8	-F	3	C		.17				DE 7
GRP46205	21	0835	0840	0837	S12	E56	.872	12844	25.7	5	-F				.28				2 2 1 7
KHAR	21	0835E	0858D		S08	E57	.855	12844	25.6	15D	1F		V				1.88		H
KHAR	21	0835E	0840D		S15	E58	.879	12844	25.7	5D	-F		V				1.88		H
TEHR	21	0837E	0840	0837U	S13	E56	.875	12844	25.7	3D	-N	4	V		.28				F
207 ATHN	21	0909E	0918	0910	N07	W56	.825	12834	17.2	9D	-F	3	V		.58				DE 7
209 ARCE	21	1208E	1205D		N07	W55	.815	12834	17.4	5D	-N		P	1208	.22	.48			K 7
GRP46211	21	1438	1447	1440	N06	E48	.739	12844	25.2	9	-F				.43				2 2 2 8
MCMA	21	1438	1448	1440	N06	E48	.739	12844	25.2	10	-F		C	1440	.21	.38			E
RAMY	21	1438E	1445	1439U	N06	E48	.739	12844	25.2	7D	-N	2	V		.65				DE
213 RAMY	21	1644E	1657	1645	S02	E72	.953	12844	27.1	13D	-F	3	V		.46				DE 6
215 HUAN	21	2038	2035	2031	N07	E90	1.000	12846	28.6	5	-F	1	C	2031	.21				4
217 TEHR	22	0458	0456	0454	S06	E54	.824	12844	26.3	6	-N	3	V		.89				DE 3
218 TEHR	22	0518	0517	0513	S07	E55	.835	12844	26.3	7	-N	3	V		.19				DE 4
219 TEHR	22	0614	0621	0618	N08	E03	.991	12846	28.5	7	-F	3	V		.19				DE 5
222 HONT	22	0806	0818	0812	S06	E57	.851	12844	26.6	12	-N		C	0812	.41				7
223 HONT	22	0812	0817	0814	S04	E49	.768	12844	26.0	5	-N		C	0814	.21				7
GRP46224	22	0844	0856	0849	S09	E09	.316	12840	23.8	12	-F				.37				2 2 2 10
ATHN	22	0844	0855	0848	S09	E09	.316	12840	23.8	11	-F	3	C		.33				DE
HONT	22	0844	0856	0849	S09	E09	.316	12840	23.8	12	-N		C	0849	.41				
225 HONT	22	0904	0918	0904	S09	E09	.316	12840	23.1	14	-N		C	0904	.41				10
GRP46226	22	0924	1018	0933	S15	E05	.384	12840	22.8	54	-F				.28				2 2 2 9
HONT	22	0924	1028	0933	S14	E05	.369	12840	22.8	64	-N		C	0933	.21				
ATHN	22	0931E	1007	0932	S15	E05	.384	12840	22.8	36D	-F	1		0932	.34	.33			
228 BOUL	22	1504	1515	1505	S05	E55	.831	12844	26.8	11	-F	3	V	1505	.20	.50			6
231 PALE	22	1824	1828	1825	S05	E50	.781	12844	26.5	4	-F	3	V		.26				H 3

SOLAR FLARES
Unconfirmed

SEPTEMBER 1972

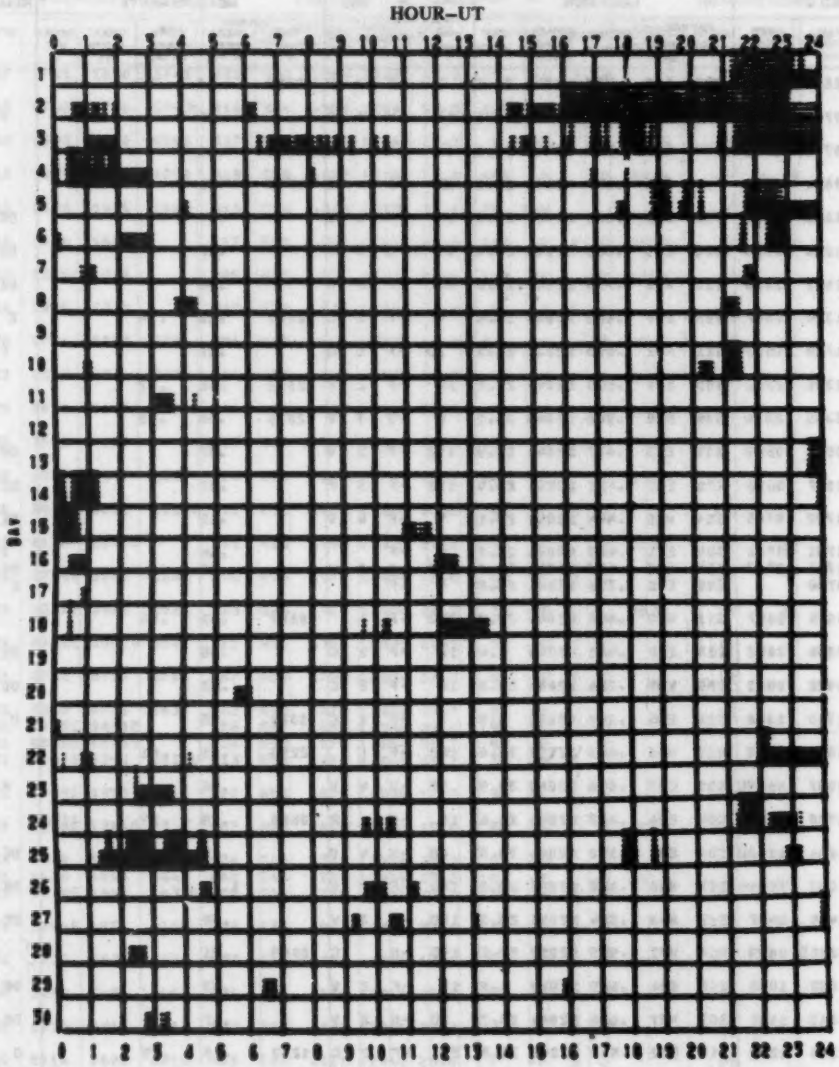
OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HEMATH PLAGE REGION	CMP DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA sq. Deg.	CORR. AREA sq. Deg.	MAX. WIDTH deg	MAX. INT. %	
233 BOUL	22	2052	2054	2052	S05	E45	.725	12044	26.2	2	-F	2	V	2052	.40	.49			3
239 ATHN	23	0656	0709	0656	S06	E44	.717	12044	26.6	13	-N	2	C		.50				F 6
240 MONT	23	0720	0736	0726	S03	E49	.765	12044	27.0	16	-F		C	0726	.41				8
241 MONT	23	0754	0804	0755	S02	E40	.655	12044	26.3	10	-F		C	0755	.21				9
242 TEHR	23	0759	0816	0803	S12	W36	.650	12039	20.6	17	-N	3	C		.84				DE 8
246 ATHN	23	1206	1216	1208	S08	E39	.665	12044	26.4	10	-N	3	V		.17				DE 6
247 RAHY	23	1334	1412	1338	S12	W28	.955	12040	21.5	38	-F	3	C		.46				DE 6
248 HUAN	23	1346	1358	1347	S08	E38	.653	12044	26.4	4	-F	2	C	1347	.26	.34			E 5
252 PALE	23	1653E	1700	1653U	S11	W32	.596	12039	21.3	7D	-F	1	C		.27				F 4
256 BOUL	23	2311	2321	2312	S05	E40	.665	12044	27.0	10	-F	2	V	2312	.60	.72			4
257 BOUL	23	2324	2338	2324	S09	E28	.506	12044	26.1	6	-B	3	V	2324	.50	.60			4
261 ATHN	24	0507E	0518	0509	S05	E23	.437	12044	25.9	11D	-F	2	V		.33				DE 3
262 ATHN	24	0614E	0627	0616	S06	E22	.431	12044	25.9	13D	-F	3	V		.33				DE 3
263 TEHR	24	0743	0752	0745	S14	W16	.444	12040	23.1	9	-F	4	V		.19				DE 6
GRP46264	24	0742	0751	0743	S05	E21	.409	12044	25.9	9	-F				.66				2 2 1 6
ATHN	24	0742E	0751	0743	S05	E22	.423	12044	26.0	9D	-F	3	V		.66				DE
ISTA	24	0745	0758		S05	E20	.395	12044	25.8	5	-F								E
265 ATHN	24	0854E	0915	0857	S11	W19	.440	12040	22.9	21D	-F	1		0857	.60	.64			5
270 ATHN	25	0848	0858	0852	S08	E80	.986	12049	1.4	10	-F	3	C		.50				DE 7
279 ATHN	25	0908	0922	0918	S05	E05	.224	12044	25.8	14	-F	3	C		.33				DE 6
282 HUAN	25	1307	1310	1308	S24	E05	1.000	12049	1.9	3	-F	2	C	1308	.15				D 5
291 MANI	25	2250E	2300	2253	N15	W48	.643	12050	23.0	10D	-F	1		2253	.31	.41			3
296 TEHR	26	0559E	0607	0559U	S08	E62	.896	12049	30.9	8D	-N	4	V		.46				F 4
298 CATA	26	0650	0700	0655	S04	E04	.202	12044	26.6	10	-N		P	0655	.29	.29		(178)	7
301 TEHR	26	1040E	1044	1040U	S04	E01	.198	12044	26.5	4D	-N	4	V		.19				DE 4
305 ATHN	26	1509E	1523	1509U	S17	W48	.800	12040	23.0	14D	-F	2	V		1.32				DE 3
313 RAHY	27	1435E	1445	1437	S17	W58	.884	12040	23.3	10D	-F	3	V		.58				DE 6
315 MONT	28	0757	0816D	0809	N14	W77	.969	12050	22.6	19D	-N		C	0809	.21				7
316 ATHN	28	1018	1038	1020	S12	E34	.625	12049	1.0	12	-F	2	V		.33				DE 5
317 ATHN	28	1105E	1113	1107	S05	W37	.626	12044	25.7	7D	-N	2	V		.17				DE 6
319 HUAN	28	1248	1308	1252	S18	E32	.589	12049	30.9	28	-F	2	C	1252	.15	.19			D 7
320 RAHY	28	1319	1329	1321	S06	W34	.592	12044	26.0	10	-F	3	C		.37				DE 7
323 HUAN	28	1614	1620	1615	S18	E38	.564	12049	30.9	6	-F	1	C	1615	.21	.25			D 4
326 BOUL	28	1756	1810	1759	S01	W23	.411	12044	27.0	14	-F	2	V	1759	.15	.15			3
GRP46330	29	0342	0358	0346	S09	E21	.442	12040	30.7	8	-N				.83				1 1 1 3
PALE	29	0342E	0358D	0348	S09	E22	.455	12049	30.8	8D	-N	2	C		.55				F
PALE	29	0344E	0358D	0346	S09	E21	.442	12049	30.7	6D	-N	1	V		.83				F
331 TEHR	29	0616	0622	0619	S09	W42	.784	12044	26.1	6	-N	3	V		.46				DE 5
342 CATA	30	0708	0758D	0758	N12	E34	.958	12056	2.8	58D	-N		C	0758	1.44	1.74		(155)	T 8
344 ATHN	30	0857	0909	0901	N10	E33	.542	12056	2.8	12	-F	2	C		.33				DE 8
345 WEND	30	1021E	1043D		S08	W59	.872	12044	26.0	22D	1N		V		3.00				6
346 RAHY	30	1438E	1451	1437U	N13	E33	.546	12056	3.1	21D	-F	3	C		.15				DE 9

22
Sep 72

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

SEPTEMBER 1972



Observatories included in total patrol:

Abastumani	Capri-S (Swedish)	Huancayo	Manila	Siberie
Arcetri	Carnarvon	Istanboul	McMath-Hulbert	Tachkent
Athenes	Catania	Kharkov	Mitaka	Tehran
Boulder	Gran Canaria	Kiev	Monte Mario	Upice
Bucharest	Haute-Provence	Kodaikanal	Ondrejov	Voroshilov
Capri-F (German)	Herstmonceux	Locarno	Palehua	Wendelstein
			Ramey	Zürich

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

SEPTEMBER 1972

SEP. 1972	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
1	260	ONDR	5	0723.5	0723.5	1.5	40.0			
	100	GORK	6	0723.9	0724.1	.5	55.0	25.0		
	100	GORK	6	0732.3	0732.4	.6	55.0	25.0		
	23	POTS	45	0806.3	0806.8	1	800.0	150.0		
	260	ONDR	40	0906	0914.5	354	55.0			
	930	BORD	45	1541	1541.5	1	23.0	2.0		
	930	BORD	45	1547	1547.5	1	8.0	2.0		
	2800	OTTA	1	1622	1622.3	1.5	2.4	1.2		
	2695	BOUL	3	1622	1625.5	1.5	6.0	2.0		
	1420	BOUL	3	1622.5	1623	1.5	2.0	1.0		
	930	BORD	40	1623	1623.2	1	16.0	2.0		
	606	SGHR	40	1728.5	1730.8	4.1	10.2	4.8		
	410	SGHR	6	1728.5	1730.7	4.7	21.2	8.5		
	245	SGHR	6	1728.5	1730.6	4.9	60.0	24.0		
	18	MCMA	6	1728	1733	6			3	
	1420	CANR	3	1810	1810.5	2.5	6.0	3.0		
	2800	OTTA	24	1945		25	1.5			
	2695	BOUL	45	1959.5	1901.5	3.5	11.0	3.0		
2	100	HIRA	6	0022	0022.4	1	160.0	50.0		
	100	HIRA	6	0023.5	0024	1	180.0	70.0		
	3750	TYKW	8	0132.2	0132.3	1	12.0	2.0		
	2000	TYKW	1	0132	0132.5	1	2.0	1.0		
	1000	TYKW	45	0132.2	0132.6	1	12.0	3.0		
	100	GORK	44	0354		126		5.0		
	930	BORD	45	0832	0832.5	1	8.0	1.0		
	2695	BOUL	3	1256.5	1257.5	1.5	5.0	2.0		
	2800	OTTA	20	1650	1700	30	1.6	0.8		
	18	BOUL	6	1951	1954	6			3	
	18	MCMA	6	2023	2026	4			1	
	2695	CRON	3	2318	2320	3	7.0	3.0		
3	200	HIRA	6	0609.5	0609.9	1	90.0	40.0		
	113	POTS	45	0609.4	0609.5	1.1	200.0	10.0		
	100	HIRA	6	0609	0609.7U	2	90.0D	50.0D		
	100	GORK	44	0630		270		5.0		
	113	POTS	45	0703.5	0703.7	.3	140.0	10.0		
	1500	BERL	20	0839.3	0858.4	145	5.3	2.0		
	3000	BERL	20	0841.5	0921.4	99	6.8	2.5		
	237	TRST	41	0842	0842.2	.4	88.0			
	100	GORK	6	0853.3	0853.7	.8	150.0	70.0		
	930	BORD	45	0854	0856.9	6	10.0	3.0		
	237	TRST	27	0856	0911	28	60.0			
	9500	BERL	20	0858	0921.5	54	13.0	5.7		
	100	GORK	24	0928.7	1008.1	61.3	140.0			
	237	TRST	41	1202.2	1202.6	.5	77.0			
	2800	OTTA	20	1410	1500	180	2.6	1.5		
	536	ONDR	5	1429	1429	1	75.0			
	536	ONDR	45	1443.5	1443.5	4	160.0			
	2800	OTTA	20	1720	1835	140	2.6	1.3		
	100	HIRA	43	2010	2034	760 D	50.0	10.0		
	18	MCMA	41	2124	2126	4			1	
	18	BOUL	41	2152	2156	4			1	
	2695	PENT	20	2325	2440	135	5.4			
4	208	VORO	24		0135	120	10.0			
	2695	CRON	3	0315	0317	4	5.0	2.0		
	100	GORK	44	0400 E		195		10.0		
	2695	CRON	45	0407.5	0409	6.5	11.0	3.0		
	4995	CRON	45	0408	0412.5	6.5	9.0	4.0		
	650	GORK	40	0614.9	0616.4	6.1	8.5			
	2695	CRON	45	0650	0658.5	23	11.0	3.0		
	550	KIEV	6	0816.3	0816.5	3	81.0			
	100	HIRA	45	0818	0926.6	70 D	65.0	15.0		
	210	IZMI	48	0903.6	0904	1.3	2400.0	230.0		
	100	GORK	6	1116	1116.9	2	100.0	50.0		
	100	GORK	6	1122	1122.6	1	50.0	25.0		
	200	GORK	44	1130		90		5.0		
	245	SGHR	43	1146	1338.6	682 D	51.0			
	245	BOUL	42	1234	1256	144			1	
	225	HARS	45	1429	1430	2	130.0	40.0		
	1420	BOUL	45	1800.5	1802.5	2	4.0	1.0		
	100	HIRA	45	2043.5	2049.9	8	50.0	15.0		
	200	HIRA	45	2047	2050	4	430.0	120.0		
	500	HIRA	6	2048	2049.8	3	120.0	10.0		
	4995	BOUL	8	2323.5	2325	3	34.0	13.0		
	200	HIRA	45	2323	2325.5	4	970.0	240.0		
	9400	TYKW	3	2324	2325.4	3	38.0	8.0		
	8800	MANI	4	2324.3	2325.5	3.9	46.4	18.6		
	4995	MANI	4	2324.3	2325.4	3.1	42.6	12.9		
	3750	TYKW	3	2324	2325.4	3	30.0	7.0		
	2695	MANI	2	2324.4	2324.8	1.6	3.1	1.6		
	2695	PENT	1	2324.5	2325.5	3	4.2	2.0		
	1415	MANI	2	2324.4	2324.8	1.6	8.3	1.7		
	1000	TYKW	45	2324	2324.8	3	6.0	2.0		
	606	MANI	4	2324.1	2325.2	3.9	13.6	2.5		
	208	VORO	6	2324.5	2325.7	2.5	408.0	70.0		
	100	HIRA	6	2324.5	2325.6	2.5	230.0	70.0		
	2695	BOUL	45	2325.5	2326.5	3.5	7.0	2.0		
	2000	TYKW	1	2325.3	2329.6	.8	3.0	1.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

SEPTEMBER 1972

SEP. 1972	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
	1420	BOUL	3	2325	2326	2	3.0	1.0		
5	9400	TYKW	1	0725	0729	7	6.0	3.0		
	1420	CANR	8	0725	0726	1.5	13.0	5.0		
	930	BORD	45	0725	0725.5	1	9.0	2.0		
	3750	TYKW	1	0728	0729.3	3	7.0	2.0		
	1500	BERL	3	0728.6	0729.3	1.4	15.0	4.2		
	1420	CANR	8	0728.5	0730	2	17.0	7.0		
	2000	TYKW	1	0729	0729.2	1	8.0	2.0		
	536	ONDR	45	0737	0737.5	2.5	65.0			
	536	ONDR	5	0842.5	0842.5	1.5	85.0			
	260	ONDR	45	1007	1007	4.5	60.0			
	245	SGNR	44	1017 E	1255.2	500.3D	14.0			
	536	ONDR	5	1127	1127	1	105.0			
	536	ONDR	5	1327	1327	1.5	105.0			
	2800	OTTA	20	1345	1350	20	2.0	1.0		
	260	ONDR	45	1357.5	1359	2.5	95.0D			
	234	POTS	45	1358	1358	.1	350.0	90.0		
	225	HARS	5	1359	1359.5	1	120.0	40.0		
	2800	OTTA	21	1415	1530	445	6.6	3.6		
	9400	HUAN	20	1435.8	1448.9	47.5	7.4	1.5		
	410	SGNR	6	1438	1443.4	12.6	8.1	2.0		
	245	SGNR	6	1441.7	1447.6	7.3	180.0	45.0		
	606	SGNR	41	1442.3	1447.5	5.9	14.0	3.4		
	260	ONDR	45	1442	1447	7.5	95.0D			
	225	HARS	45	1442	1442.5	1.5	100.0	30.0		
	2700	PENN	20	1444.6	1550.6	134	15.7	7.9		
	930	BORD	40	1446	1446.3	3	28.0	3.0		
	225	HARS	45	1447	1447.5	2	50.0	10.0		
	9400	HUAN	20	1534.1	1556.6	78.9	9.3	5.2		
	2800	OTTA	20	1535	1555	75	6.2	3.4		
	2695	SGNR	20	1539.6	1547.8	54.9	6.5	1.2		
	1420	BOUL	45	1539.5	1546	9	4.0	2.0		
	1415	SGNR	20	1539.8	1547.3	47.1	3.1	.6		
	4995	SGNR	20	1540	1557	93.5	9.0	1.5		
	1420	CANR	45	1540	1542	9	4.0	2.0		
	1420	CANR		1540	1547.5					
	113	POTS	45	1546.5	1546.6	.6	200.0	20.0		
	9400	HUAN	20	1714.9	1747.3	41.8	7.4	2.9		
	18	BOUL	41	1719	1718	5			1	
	18	MCMA	41	1716	1717	3			1	
	4995	SGNR	20	1725.5	1743.5	48.8	8.6	1.4		
	2800	OTTA	21	1725	1750	115	4.4	2.2		
	410	SGNR	6	1725.7	1742.6	25.7	17.0	3.0		
	245	SGNR	6	1726.3	1741.2	26.5	54.0	9.0		
	225	HARS	45	1727	1731	10	25.0	10.0		
	18	BOUL	6	1727	1731	5			3	
	606	SGNR	40	1728.3	1742.7	19.3	26.0	4.0		
	18	MCMA	6	1728	1731	5			2	
	2800	OTTA	1	1729	1732	5	1.8	0.9		
	2695	BOUL	3	1729	1732	7	3.0	1.0		
	2695	SGNR	20	1729	1749	47.2	5.5	.9		
	1420	BOUL	8	1729.5	1730.5	1.5	50.0	23.0		
	1420	CANR	8	1729	1730	1.5	53.0	23.0		
	1415	SGNR	21	1729.1	1742.5	27.7	141	.2		
	1415	SGNR	4	1729.3	1729.6	4.4	67.0	11.0		
	225	HARS	45	1740	1741.5	2	90.0	35.0		
	18	BOUL	6	1751	1753	6			1	
	18	MCMA	6	1752	1753	2			1	
	10700	PENN	1	2126.9	2127.6	1.9	9.5	2.8		
	960	PENN	1	2127.3	2127.6	1.4	6.0	1.7		
	1420	BOUL	8	2128	2128.5	1	5.0	1.0		
	1420	BOUL	3	2135.5	2138	3.5	2.0	1.0		
	4995	BOUL	21	2235.5	2239.5	34	13.0	4.0		
	2695	PENT	21	2235		100	2.2	1.4		
	3750	TYKW	45	2236	2237.2	5	4.0	2.0		
	2695	PENT	1	2236	2239.5	5.5	3.4	1.7		
	2695	BOUL	3	2238	2239.5	4	5.0	2.0		
	2000	TYKW	1	2238.5	2238.8	.6	3.0	1.0		
	1420	BOUL	8	2238	2239.5	2	5.0	2.0		
	1000	TYKW	1	2238	2238.9	3	9.0	2.0		
	100	HIRA	6	2238.5	2239.1	1	100.0	40.0		
6	3750	TYKW	1	0317	0318	2	2.0	1.0		
	200	GORK	6	0400.6	0410.6	1.2	200.0			
	650	GORK	46	0405.8	0409.5	10	82.0D			
	650	GORK		0405.8	0410.2		194.0			
	950	GORK	46	0406.1	0410.2	9.8	285.0			
	8800	MANI	3	0407.5	0412.8	7.7	32.1	7.4		
	1420	CRON	45	0407.5	0410	6.5	86.0	15.0		
	606	MANI	4	0407.5	0409.4	6.9	300.0	58.0		
	9400	TYKW	45	0408	0412.6	6	11.0	2.0		
	4995	MANI	4	0408.6	0412.4	5.7	10.9	3.6		
	3750	TYKW	45	0408	0409.3	6	10.0	3.0		
	2950	GORK	46	0408.7	0410.3	6.5	15.6	5.6		
	2950	GORK		0408.7	0414.6		13.4			
	2000	TYKW	45	0408.5	0409.3	7	43.0	4.0		
	1415	MANI	4	0408.5	0409.4	6.5	103.0	18.3		
	1000	TYKW	45	0408.5	0409.4	6	295.0	25.0		
	500	HIRA	5	0408.6	0409.7	1.5	140.0	60.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

SEPTEMBER 1972

SEP. 1972	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
6	180	HIRA	6	0408.5	0409.2	2	150.0	60.0		
	2695	MANI	4	0409.2	0409.4	6.4	10.7	4.3		
	200	HIRA	6	0409	0410	2	70.0	30.0		
	100	GORK	6	0409.5	0410 U	1.3	100.0D			
	100	HIRA	6	0417.4	0417.6	1.5	150.0	50.0		
	100	GORK	6	0418.1	0418.4U	1.7	100.0D			
	180	HIRA	27	0425	0455	51	30.0	10.0		
	100	GORK	44	0427		33		5.0		
	606	MANI	4	0436.5	0437.5	2.1	16.8	4.6		
	1420	CROM	8	0437.5	0438	1	10.0	4.0		
	1415	MANI	1	0437	0437.9	2.2	9.1	3.3		
	1000	TYKW	1	0437	0437.8	2	6.0	2.0		
	950	GORK	2	0437.7	0438.7	1.5	4.7	2.3		
	650	GORK	4	0437.2	0438.2	2.1	18.0			
	1000	TYKW	1	0536.5	0536.8	.6	3.0	1.0		
	950	GORK	1	0536.6	0536.8	.4	2.8	1.4		
	650	GORK	41	0536.2	0536.4	.9	14.9			
	650	GORK		0536.2	0536.8		8.5			
	100	GORK	41	0623.9	0624.3	2.5	150.0			
	100	GORK		0623.9	0625.3		150.0			
	1500	BERL	45	0624.5	0658.9	76	13.0			
	950	GORK	22	0645	0659	29	8.0			
	237	TRST	42	0646.8	0649.8	25	160.0			
	237	TRST		0646.8	0703.7		29.0			
	200	GORK	41	0646.7	0651.5	11.7	190.0			
	200	GORK		0646.7	0656.3		180.0			
	113	POTS	45	0646	0647	24	175.0	10.0		
	100	HIRA	45	0646.5	0650	10.5	60.0			
	23	POTS	45	0646.5	0651.5	6	20000.0	1500.0		
	650	GORK	23	0647.7		22.9				
	225	HARS	45	0647	0653	23	35.0	10.0		
	200	HIRA	41	0647	0648.8	12	200.0			
	30	UPIC	45	0647	0655	14				
	1000	TYKW	45	0648	0658.9	35	9.0	3.0		
	100	GORK		0648	0650.3	9	50.0			
	1420	CROM	40	0649.5	0659	29.5	14.0	3.0		
	3750	TYKW	20	0650	0658.9	40	6.0	2.0		
	3000	BERL	45	0650	0658.8	40 D				
	2000	TYKW	45	0650	0658.9	40	13.0	4.0		
	3100	CRIM	45	0651	0658	49	8.0	3.0		
	1415	MANI	4	0651.8	0658.8	12.5	12.5	5.8		
	2950	GORK	22	0652.7	0658.8	10	15.8	6.4		
	930	BORD	45	0652	0652.3	19	20.0	4.0		
	606	MANI	22	0654.2	0657.6	12.8	4.6	1.7		
	650	GORK	4	0708.1	0708.6	1.3	9.9			
	260	ONDR	45	0726.5	0727.5	1	40.0			
	536	ONDR	45	0728	0728	2	80.0			
	9285	ARCE	21	0925.2	0943	39				
	221	ABST	1	0936.5	0936.8	.5	32.0			
	650	GORK	1	0937	0937.2	.5	4.8			
	408	TRST	45	0937.1	0937.2	.2	35.0	11.0		
	260	ONDR	45	0937	0937.5	1.5	25.0			
	200	GORK	6	0937.1	0937.5	.6	70.0	35.0		
	9285	ARCE	4	0940	0940.6	2.3				
	9100	GORK	20	1026.3	1032.8	17.1	21.0	9.0		
	200	GORK	6	1033	1033.1	.3	200.0	100.0		
	2800	OTTA	20	1250	1320	95	2.2	1.1		
	260	ONDR	45	1341.5	1342	3	35.0			
	237	TRST	41	1429.6	1429.6	.4	71.0			
	536	ONDR	5	1433	1433	2	75.0			
	606	SGMR	1	1519.3	1519.7	3.7	3.7	1.0		
	410	SGMR	6	1519.3	1519.4	4.8	57.0	10.0		
	245	SGMR	6	1519.3	1519.6	3.7	107.0	10.0		
	237	TRST	42	1519.5	1519.6	2.6	230.0			
	18	HCMA	42	1532	1618	54			2	
	237	TRST	42	1534.2	1534.2	.9	230.0			
	410	SGMR	6	1645.6	1645.7	3.4	3.8	1.6		
	245	SGMR	6	1645.2	1645.9	2.5	166.0	63.0		
	225	HARS	45	1645.5	1646.5	2	100.0	35.0		
	2800	OTTA	20	1940		95	1.2	0.8		
	2695	BOUL	3	2133.5	2136.5	6.5	18.0	6.0		
	606	SGMR	4	2133.8	2136.2	6	42.3	16.4		
	245	SGMR	7	2133.9	2138.6	20.8	440.0	130.0		
	9400	HUAN	3	2134.3	2136.7	4.7	22.7	8.1		
	4995	BOUL	45	2134.5	2137.5	4	9.0	4.0		
	1420	BOUL	3	2134.5	2137	8.5	17.0	7.0		
	1415	SGMR	3	2134.7	2136.2	6.7	17.0	6.4		
	1000	TYKW	45	2134	2136.2	6	47.0	20.0		
	960	PENN	45	2134	2136.4	6	39.0	11.3		
	410	SGMR	48	2134.8	2136.2	4.2	620.0	320.0		
	10700	PENN	20	2135.8	2137.3	2.8	15.9	8.1		
	9400	TYKW	1	2135	2137	4	9.0	4.0		
	3750	TYKW	45	2135	2136	4	10.0	4.0		
	2800	OTTA		2135	2136.1	9	16.2	8.1		
	2700	PENN	3	2135	2136.2	4	24.6	10.7		
	2000	TYKW	1	2135	2136.1	3	13.0	5.0		
	208	VORO	6	2135	2139	9	478.0			
	200	HIRA	45	2135	2138.5	10	1200.0	200.0		
	100	HIRA	45	2138	2140.2	10	210.0	80.0		
	100	HIRA	27	2148	2155	25	20.0	5.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

SEPTEMBER 1972

SEP 1972	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	MEAN	INT	REMARKS
	2695	PENT	20	2220	2330	160	2.0	1.0		
7	1000	TYKW	45	0137	0138	6	6.0	1.0		
	1420	CRON	45	0139.5	0142.5	4	4.0	1.0		
	200	GORK	44	0400 E		75		5.0		
	100	GORK	44	0721		99		5.0		
	210	IZMI	41	0756	0756	3.5	170.0			
	234	POTS	5	0757.4	0757.4	.1	175.0	60.0		
	200	GORK	41	0757.3	0757.4	1.2	200.0			
	200	GORK		0757.3	0758.3		70.0			
	113	POTS	45	0757.4	0757.4	.1	200.0	50.0		
	260	ONDR	45	0826	0827	1	80.0			
	808	ONDR	5	0827	0827	.5				
	260	ONDR	45	0845.5	0847	1.5	60.0			
	225	HARS	45	0845	0845.5	1.5	45.0	15.0		
	200	GORK	6	0845.9	0846.7	.9	150.0	70.0		
	100	GORK	6	0845.7	0846.7	1.1	50.0	25.0		
	234	POTS	45	0846.8	0846.8	.1	100.0	25.0		
	113	POTS	45	0846.6	0846.8	.2	600.0	40.0		
	30	UPIC	45	0846	0847	2				
	100	GORK	6	0856.2	0856.3	1.3	50.0	25.0		
	113	POTS	5	0904.6	0904.7	.1	200.0	70.0		
	30	UPIC	5	0904	0904.5	1				
	30	UPIC	5	0937	0937.5	1				
	23	POTS	5	0938	0938	.3	1000.0	300.0		
	30	UPIC	45	1219	1220	2				
	200	GORK	6	1220.2	1220.3	.4	75.0	35.0		
	113	POTS	45	1220.3	1220.4	.2	100.0	20.0		
	100	GORK	6	1220.2	1220.4	.4	50.0D			
	23	POTS	5	1220.3	1220.5	.3	1500.0	500.0		
	550	KIEV	6	1223.3	1223.8	1.1	71.0			
	18	MCMA	42	1403	1419	16			2	
	1420	BOUL	45	2213	2213.5	2.5	5.0	1.0		
8	100	HIRA	43	0125	0525	435	80.0	10.0		
	200	GORK	44	0406 E		534 D		15.0		
	100	GORK	44	0406 E		534 D		40.0		
	30	UPIC	44	0713	0910	177				
	245	SGMR	44	1020 E	2129.5	761 D	95.0			
	245	BOUL	43	1835		374 D			2	
	100	HIRA	44	2020	0700	780 D	80.0	10.0		
	410	SGMR	43	2031	2140.3	150 D	40.0			
	208	VORO	44	2130	0009.2	390	70.0	16.0		
	113	POTS	45	0521.9	0522	.5	420.0	70.0		
	237	TRST	42	0612.4	0614.2	7.1	99.0			
	113	POTS	45	0617.2	0617.7	.8	450.0	50.0		
	221	ABST	3	0719.5	0720.2	1	57.0			
	808	ONDR	5	0922.5	0922.5	2				
	536	ONDR	5	0922	0922	2.5	55.0			
	260	ONDR	5	0922.5	0922.5	.5	55.0			
	245	BOUL	42	1241	1442	158			1	
	245	BOUL	41	1530	1532	5			1	
	245	BOUL	41	1632	1643	25			1	
	2800	OTTA	21	1750	1845	210	2.6	1.2		
	18	MCMA	41	1856	1857	3			1	
	2800	OTTA	20	1920	1923	11	1.4	0.7		
	18	BOUL	6	1924	1927	7			3	
	18	MCMA	6	2003	2005	3			1	
	18	BOUL	6	2004	2006	3			1	
	2800	OTTA	1	2029.5	2031	4	1.4	0.7		
9	200	GORK	44	0403 E		417 D		50.0		
	100	GORK	44	0403 E		417 D		25.0		
	260	ONDR	43	0650	0956.5	200	70.0			
	221	ABST	41	0700	0756.5	180	86.0			
	210	IZMI	44	0700		300	100.0			
	410	SGMR	44	1021 E	2209.1	758 D	51.7			
	245	SGMR	44	1021 E	2214.2	758 D	210.1			
	245	BOUL	44	1242 E		520 D			3	
	100	HIRA	44	2020	2300	660 D	130.0	30.0		
	208	VORO	44	2125	2213	395	288.0	102.0		
	650	GORK	20	0538	0548.3	70.5	9.0	4.0		
	500	HIRA	27	0538	0547.8	42	20.0	5.0		
	650	GORK	20	0656	0734	76	6.0	3.0		
	234	POTS	45	0807.3	0807.4	.2	250.0	10.0		
	221	ABST	3	0900	0955	60	83.0	39.0		
	234	POTS	41	0904.8	0906	1.1	450.0	7.0		
	30	UPIC	45	0904.5	0909	15.5				
	234	POTS	5	0938.2	0938.2	.1	450.0	150.0		
	30	UPIC	45	0947	1003	25.5				
	234	POTS	45	1040.9	1041.1	.3	350.0	25.0		
	234	POTS	45	1049.2	1049.2	.1	400.0	100.0		
	234	POTS	41	1139.6	1140	1.5	350.0	15.0		
	536	ONDR	5	1402	1402	1	75.0			
	536	ONDR	45	1445	1448	5	85.0			
	4995	BOUL	3	1645.5	1646.5	4	9.0	3.0		
	2700	PENN	1	1645.8	1647.4	6.9	6.7	2.0		
	2800	OTTA	1	1646	1647.5	3	2.4	1.2		
	2695	BOUL	3	1646.5	1648	2	3.0	1.0		
	18	MCMA	42	2047	2056	10			1	

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

SEPTEMBER 1972

SEP. 1972	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
	500	HIRA	27	2158	2348.7	200	35.0	10.0		
	2695	PENT	20	2255	2325	75	2.0	1.0		
10	2695	CRON	3	0123	0125	2.5	4.0	1.0		
	4995	CRON	3	0124	0125.5	2	6.0	2.0		
	200	GORK	44	0400 E		420 D		20.0		
	100	GORK	44	0400 E		420 D		10.0		
	30	UPIC	43	0908		304				
	113	POTS	45	0919	1346 U	353 U	400.0U			
	234	POTS	45	0925	1325	309 U	140.0	28.0		
	221	ABST	3	0927	0930.5	5	36.0			
	210	IZMI	43	0930		90	60.0			
	260	ONDR	43	0950	1318	280	45.0			
	410	SGMR	44	1022 E	1151.2	257.3D	58.0			
	245	SGMR	44	1022 E	1315.7	751 D	248.0			
	410	SGMR	43	1953.5	2032.1	184.5D	28.2			
	100	HIRA	44	2020	2108	600 D	70.0	20.0		
	245	BOUL	44	2025 E		265 D			3	
	208	VORO	44	2200	0149	360	200.0	18.0		
	536	ONDR	5	0707.5	0707.5	1	85.0			
	30	UPIC	45	0756	0756	2.5				
	113	POTS	45	1027	1027	.1	200.0	50.0		
	23	POTS	41	1027.1	1027.2	1.4	2000.0	120.0		
	113	POTS	45	1056.7	1057.1	.5	700.0	70.0		
	23	POTS	45	1112	1328	176	7000.0	800.0U		
	113	POTS	45	1150.3	1150.4	.2	2000.0	400.0		
	408	TRST	41	1151.1	1151.2	.4	86.0			
	408	TRST	41	1214.5	1214.7	.5	93.0			
	536	ONDR	45	1226	1228	2	110.0			
	606	SGMR	23	1247	1316.5	169	49.7	20.0		
	930	BORD	47	1300	1348	82	244.0	10.0		
	1415	SGMR	23	1304.9	1417.9	126.9	3.2	1.5		
	1500	BERL	46	1310	1347.7	75	140.0	10.0		
	3000	BERL	20	1313.5	1351.5	94	9.0	2.0		
	1420	BOUL	40	1316.5	1348.5	50.5	212.0	25.0		
	1415	SGMR	40	1316.4	1347.8	50	220.0	40.0		
	960	PENN	45	1316.2	1347.8	68.1	160.0	9.2		
	1420	CANR	40	1317.5	1349	69.5	218.0	7.0		
	18	MCMA	6	1319	1323	6			3	
	2800	OTTA	21	1325	1400	190	5.4	2.7		
	2700	PENN	20	1332	1351.6	66.2	12.1	3.0		
	606	SGMR	47	1336.6	1354	43.7	710.0	130.0		
	808	ONDR	45	1337	1348.5	24				
	410	SGMR	48	1340.3	1355.1	41.5	520.0	100.0		
	2695	CANR	40	1341	1351.5	40.5	15.0	2.0		
	2695	BOUL	40	1341.5	1352	28.5	15.0	3.0		
	2695	SGMR	40	1341.3	1351.5	22.7	15.0	5.0		
	18	MCMA	42	1341	1359	3			2	
	2800	OTTA	41	1342	1352	18	10.8			
	536	ONDR	45	1342	1356	25.5	460.0			
	4995	SGMR	22	1346.4	1354.8	16.4	4.0	1.5		
	9400	HUAN	20	1425.1	1433.6	20.6	5.8	2.8		
	9400	HUAN	20	1548.7	1600.7	26.4	7.7	2.6		
	9400	HUAN	22	1717.1	1746.5	41	7.7	0.3		
	18	MCMA	6	1738	1741	4			2	
	2800	OTTA	1	1739.5	1743	4.5	.8	0.4		
	9400	HUAN	20	1841.4	1851.3	17.3	9.6	5.2		
	18	MCMA	41	1842	1845	4			1	
	18	MCMA	6	1947	1949	3			1	
	606	SGMR	20	2059.2	2109.7	14.9	4.1	1.5		
	245	SGMR	6	2059.2	2110.9	16.4	89.0	35.0		
	2800	OTTA	20	2100	2125	10	4.4	2.2		
	18	MCMA	42	2100	2110	32			1	
	410	SGMR	6	2101	2108.2	19.1	9.9	3.0		
	1415	SGMR	1	2107	2108	4.5	2.1	.5		
11	606	MANI	2	0147.5	0150.3	5.5	3.8	1.9		
	200	GORK	44	0406 E		534 D		15.0		
	100	GORK	44	0406 E		534 D		5.0		
	260	ONDR	44	0630		330	70.0D			
	210	IZMI	44	0700		300	70.0			
	221	ABST	41	0701	1019.5	240	133.0			
	221	ABST	20	0821	0849.2	65	86.0	24.0		
	410	SGMR	44	1023 E	1324.7	752 D	19.2			
	245	SGMR	44	1023 E	1324.6	752 D	180.0			
	100	HIRA	43	2020	2300	730 D	70.0	40.0		
	208	VORO	44	2135	2315	130	32.0	15.0		
	1500	BERL	22	0955	1029.7	134	21.0	4.0		
	30	UPIC	45	1000		52				
	3000	BERL	22	1003.5	1020.1	131	14.0	5.0		
	113	POTS	45	1004	1019	32	200.0	50.0		
	650	GORK	23	1010		29.8				
	950	GORK	21	1011		24.3	1.8U			
	2950	GORK	20	1012	1020.2	85	22.0	11.0		
	9500	BERL	20	1013	1039.7	71	11.0	4.1		
	225	HARS	45	1015	1019	15	350.0	100.0		
	950	GORK	46	1017.7	1019.2	14.8	35.0			
	950	GORK		1017.7	1030		63.0			
	930	BORD	45	1017	1030	18	150.0	13.0		
	808	ONDR	45	1017.5	1019.5	14.5				

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

SEPTEMBER 1972

SEP 1972	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
	650	GORK	46	1017.5	1020	8.2	116.0			
	650	GORK		1017.5	1020.7		106.0			
	550	KIEV	7	1017.6	1019.4	14.5	152.0			
	536	ONDR	45	1017.5	1019.5	16	145.0			
	260	ONDR	45	1017		18.5	70.0D			
	234	POTS	45	1017.8	1019.4	2.5	475.0	80.0		
	210	IZMI	48	1017	1019.1	5	400.0	300.0		
	1420	CANR	40	1018.5	1027.5	15	22.0	5.0		
	2695	CANR	8	1019.5	1020	2	10.0	3.0		
	9100	GORK	20	1021	1039.6	33.9	15.0	7.0		
	234	POTS	41	1140.1	1140.1	2.4	200.0	1.0		
	210	IZMI	6	1143.8	1144.2	1	470.0	200.0		
	210	IZMI	6	1153.2	1153.5	.9	500.0	280.0		
	536	ONDR	5	1157	1157	1	45.0			
	260	ONDR	5	1310.5	1310.5	.5	20.0			
	260	ONDR	45	1324.5	1324.5	1	70.0			
	234	POTS	45	1324.6	1324.7	.2	250.0	25.0		
	536	ONDR	5	1409	1409	1	55.0			
	245	BOUL	42	1952	1953	41			1	
	2800	OTTA	20	1940	2115	185	1.8	0.9		
12	200	GORK	44	0400 E		90		5.0		
	260	ONDR	5	0727.5	0727.5	.5	40.0			
	260	ONDR	5	0742	0742	.5	30.0			
	210	IZMI	41	0817	0838.4	22.1	75.0			
	100	HIRA	6	0828.5	0830	3	150.0	100.0		
	113	POTS	45	0830.4	0830.4	.3	175.0	20.0		
	30	UPIC	45	0830		4				
	23	POTS	45	0830.4	0830.3	.3	20000.0U	5000.0U		
	260	ONDR	5	1110.5	1110.5	.5	70.0			
	960	PENN	41	1915.6	1923.3	8.3	25.2			
	2700	PENN	1	1916.1	1916.6	.9	5.3	1.8		
13	3750	TYKW	20	0247	0305	70	5.0	2.0		
	100	HIRA	27	0247	0309	103	130.0	15.0		
	1420	CRON	45	0248.5	0249.5	4	4.0	2.0		
	1420	CRON		0248.5	0250.5					
	1000	TYKW	1	0248	0249.2	5	5.0	1.0		
	208	VORO	7	0248	0251.3	5.5	16.8	13.0		
	9400	TYKW	20	0250	0305	60	5.0	2.0		
	2000	TYKW	20	0250	0300	50	2.0	1.0		
	3100	CRIM	3	1021	1025	11	2.0	1.0		
	536	ONDR	5	1152	1152	.5	60.0			
	23	POTS	45	1230	1231	.5	15000.0	4000.0		
	100	GORK	41	1236.9	1237	2.1	25.0			
	100	GORK		1236.9	1238.6		50.0			
	2800	OTTA	1	1732.2	1734.2	4.5	1.0	0.5		
	4995	CANR	3	1738	1739	1.5	10.0	4.0		
	2695	CANR	3	1738.5	1739	1.5	6.0	3.0		
	1420	CANR	3	1739.5	1740.5	1.5	3.0	1.0		
14	1000	TYKW	45	0259	0306.7	12	735.0	100.0		
	30	UPIC	45	1128	1128	4.5				
	30	UPIC	45	1143	1153	19				
	260	ONDR	45	1150.5	1150.5	2	65.0			
	2695	PENT	20	2105	2255	240 D	3.2			
15	3750	TYKW	1	0402	0403.5	3	9.0	3.0		
	3750	TYKW	45	0420	0422.5	20	8.0	2.0		
	408	TRST	45	1141.8	1141.9	.3	64.0	21.0		
	9400	HUAN	20	1754.5	1805	35.9	11.3	5.7		
17	2800	OTTA	20	1720	1805	120	2.0	1.0		
	1420	CANR	40	1803.5	1809	9.5	31.0	6.0		
18	1420	CRON	45	0053	0054.5	5.5	4.0	2.0		
	30	UPIC	45	0630.5	0632	2.5				
	30	UPIC	45	0654	0654.5	2				
	225	HARS	5	1033	1033.5	2	90.0	15.0		
	930	BORO	40	1331	1331.5	3	60.0	2.0		
	2800	OTTA	1	1920.9	1921.3	5	1.0	0.5		
	2695	BOUL	3	1921	1922	1.5	4.0	1.0		
	2695	PENT	20	2205	2250	165	4.6	0.8		
	208	VORO	41	2224	2238	27	28.0			
19	2695	CRON	45	0203	0211.5	14.5	9.0	3.0		
	4995	CRON	45	0204	0211.5	12	13.0	3.0		
	3750	TYKW	45	0205	0212.1	12	15.0	5.0U		
	2000	TYKW	45	0206	0208.7	10	2.0	1.0		
	9400	TYKW	1	0210	0212	5	4.0	2.0		
	3750	TYKW	29	0217		25	4.0	2.0		
	9500	BERL	20	0920	0948	109	5.8	2.8		
	3000	BERL	20	0927.5	0950	174	5.1	2.0		
	1500	BERL	20	0935	0945.8	117	2.4	0.8		
	1420	BOUL	3	2325	2326.5	6.5	8.0	2.0		
	2695	PENT	2	2326.4	2328	3.2	5.4	1.4		
	2695	BOUL	8	2326.5	2328	4.5	7.0	2.0		
	4995	BOUL	3	2327	2327.5	3	9.0	2.0		
20	30	UPIC	45	0655.5	0656	1.5				

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

SEPTEMBER 1972

SEP. 1972	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
	2800	OTTA	24	1541.5		1.5	1.4			
	2800	OTTA	21	2035	2245	185	2.6	1.3		
	100	HIRA	6	2207	2207.2	.6	110.0	70.0		
	2800	OTTA	20	2208	2212	10	2.0	1.0		
	2695	BOUL	3	2210.5	2211.5	2	4.0	1.0		
	1420	BOUL	3	2314	2317.5	6.5	4.0	1.0		
	100	HIRA	6	2324.3	2324.3	.7	90.0	30.0		
21	3750	TYKW	1	0547	0547.7	5	3.0	1.0		
	23	POTS	45	0846.8	0846.9	.5	10000.0U	1500.0U		
	9500	BERL	20	0903.5	1223.4	247	23.0			
	3000	BERL	21	0955	1223	174	7.0			
	1500	BERL	21	1016.4	1229	148	2.0			
	2800	OTTA	21	1145	1225	170	4.8	2.4		
	3000	BERL	46	1242	1249	7.3	17.0			
	2800	OTTA	1	1243	1245	5	6.4	2.2		
	2695	CANR	3	1243	1245	3.5	8.0	3.0		
	2695	SGMR	1	1243.6	1245.2	4.1	6.5	2.5		
	1500	BERL	4	1243	1244.8	5.4	14.0			
	1415	SGMR	4	1243.6	1245	7.2	18.1	3.5		
	4995	SGMR	1	1244.7	1245.5	3.7	1.0	.5		
	1420	CANR	45	1244.5	1246	3.5	20.0	4.0		
	2700	PENN	20	1251.6	1345.6	121	16.3	3.8		
	2800	OTTA	20	1445	1550	195	3.8	1.9		
	9400	HUAN	20	1451.7	1553.9	153.9	9.4	2.6		
	930	BORD	5	1615	1615.8	1	46.0	2.0		
	245	SGMR	6	1641.7	1645.2	5.3	58.0	11.0		
	2800	OTTA	2	1643.5	1645.7	4	6.8	3.4		
	2700	PENN	3	1643.5	1645.1	4.6	12.5	4.1		
	2695	CANR	3	1643.5	1646	4	10.0	3.0		
	1420	CANR	45	1643.5	1647	5	30.0	11.0		
	960	PENN	45	1643.9	1646.2	3.5	12.6	2.9		
	930	BORD	45	1643	1646	4	35.0	4.0		
	2695	BOUL	45	1644.5	1645.5	3	8.0	2.0		
	1420	BOUL	45	1644	1646	3	45.0	20.0		
	1415	SGMR	4	1644.1	1645.7	4.8	29.6	7.0		
	606	SGMR	1	1644	1645.3	6.3	5.5	1.5		
	410	SGMR	6	1644	1644.6	5	4.9	2.0		
	2695	PENT	21	2220	2300	155	9.2	4.0		
	606	MANI	40	2239.6	2242.4	18.9	13.4	4.3		
	9400	TYKW	20	2240	2300	80	6.0	3.0		
	3750	TYKW	20	2240	2300	80	7.0	4.0		
	2695	MANI	40	2240	2243.5	19	5.0	1.3		
	2695	PENT	2	2241	2243.5	.6	4.4	2.2		
	2000	TYKW	45	2241	2243.6	19	13.0	4.0		
	1420	BOUL	45	2241.5	2244.5	5	18.0	6.0		
	1415	MANI	40	2241	2252.8	18	66.0	5.5		
	1000	TYKW	45	2241	2253	25	14.0	3.0		
	2695	BOUL	3	2243	2243.5	2.5	4.0	1.0		
	2695	BOUL	45	2252.5	2253.5	3	6.0	2.0		
	2695	PENT	1	2252.5	2253	4	2.8	1.4		
	1420	BOUL	45	2252.5	2253	10.5	46.0	10.0		
	2000	TYKW	29	2300		40	4.0	2.0		
22	100	HIRA	6	0514.5	0515	1	110.0	50.0		
	30	UPIC	45	0808	0809	2				
	1500	BERL	4	0842.5	0845.4	39	10.0	1.7		
	1420	CRON	3	0842	0845	4.5	11.0	2.0		
	1420	CANR	3	0843.5	0846.5	4.5	12.0	3.0		
	650	GORK	46	0843.6	0844.6	3.8	35.0			
	650	GORK		0843.6	0846.5		32.0			
	550	KIEV	41	0843.8	0844.7	3.8	71.0			
	950	GORK	46	0844.6	0844.6	2.8	10.1			
	950	GORK		0844.6	0845.7		16.5			
	950	GORK		0844.6	0846.6		98.0			
	930	BORD	45	0844	0845.4	3	31.0	3.0		
	3000	BERL	20	0907.2	1054	269	16.0	8.0		
	1500	BERL	20	0932.3	1056 U	274	8.6U	4.3		
	9500	BERL	20	1006	1051.1	203	40.0	20.0		
	4995	CANR	45	1041.5	1050.5	49.5	41.0	8.0		
	9100	GORK	20	1042	1112	43.4	57.0	26.0		
	9285	ARCE	22	1043.6U	1051	19				
	2950	GORK	20	1044.7	1051.5	72.3	24.0	10.0		
	950	GORK	23	1045.3	1104	104.1	4.4	2.0		
	2695	CANR	45	1046.5	1056.5	11.5	16.0	5.0		
	1420	ARCE	22	1048.1U	1055.2	17				
	950	GORK	4	1049.8	1050.2	1.1	14.2			
	930	BORD	40	1049	1049.6	2	43.0	2.0		
	30	UPIC	45	1133.5	1134.5	2				
	2800	OTTA	20	1140 E	1205	170 D	11.8			
	2800	OTTA	21	1520	1700	200	3.2	2.6		
	4995	CANR	3	1647	1650	4	8.0	3.0		
	2695	CANR	45	1647	1649.5	8	8.0	2.0		
	2695	SGMR	1	1647.9	1650 U	7.1	7.0	2.5		
	1415	SGMR	1	1647.9	1648.1	1.1	1.7	1.0		
	4995	BOUL	3	1648.5	1650	3	11.0	2.0		
	4995	SGMR	1	1648 U	1649 U	7 U	5.2	2.0		
	2800	OTTA	1	1648	1650	6	4.0	2.0		
	2700	PENN	1	1649	1650.3	6.4	8.2	3.2		
	2695	BOUL	3	1649.5	1650.5	7	8.0	2.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

SEPTEMBER 1972

SEP 1972	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
	1420	BOUL	8	1650.5	1652	1.5	54.0	12.0		
	2800	OTTA	20	1905	1945	60	1.4	0.7		
	2800	OTTA	24	2000		10	1.6			
	2800	OTTA	1	2044	2045	4	1.0	0.5		
	2800	OTTA	1	2050	2050.2	2	1.0	0.5		
	2695	BOUL	3	2111.5	2112.5	2.5	5.0	2.0		
	2800	OTTA	1	2112	2112.2	1.2	5.0	2.2		
	2800	OTTA	29	2113.2		10	1.6	0.8		
	2695	PENT	21	2140	2400	190	4.6	2.3		
	1420	CRON	45	2241.5	2244	4	17.0	5.0		
	1420	CRON	8	2250.5	2253.5	8	41.0	7.0		
	245	BOUL	42	2303	2341	86 D			1	
	2695	PENT	1	2323	2324	3	1.2	0.6		
23	100	HIRA	5	0617.3	0617.3	.7	80.0	20.0		
	113	POTS	45	0618.4	0618.4	.2	170.0	20.0		
	1500	BERL	20	0945	1028.5	163	2.0	0.9		
	3000	BERL	22	0946	1010	71	8.0	1.8		
	4995	CANR	3	1008	1009.5	6.5	18.0	5.0		
	9500	BERL	3	1009	1010	5.9	21.0	6.3		
	9285	ARCE	3	1009.8	1010.4	4 U				
	9100	GORK	3	1009.4	1010.2	3.9	26.0	7.7		
	30	UPIC	45	1122	1123.5	2.5				
	2800	OTTA	20	1340	1345	40	2.2	1.1		
	2695	CANR	3	1345	1346.5	2	5.0	2.0		
	245	SGMR	6	1614.5	1619	9.9	63.0	10.0		
	410	SGMR	6	1616.5	1619	6.2	20.1	5.0		
	2800	OTTA	22	1650	1705	170	3.0	1.5		
	2700	PENN	8	2149.2	2149.3	.2	84.1			
	960	PENN	8	2149.1	2149.2	.4	178.0			
	500	HIRA	6	2308.5	2310	2	270.0	20.0		
	2695	BOUL	8	2320.5	2321	1.5	7.0	2.0		
	2695	PENT	1	2323.7	2324	1	4.4	1.5		
	2000	TYKW	3	2323	2324	2	16.0	3.0		
	2695	BOUL	8	2324.5	2325.5	2.5	8.0	3.0		
	1420	BOUL	8	2324.5	2325.5	2.5	14.0	2.0		
24	9400	TYKW	20	0030	0045	50	4.0	2.0		
	2000	TYKW	20	0030	0042.5	20	14.0	3.0		
	3750	TYKW	20	0035	0042.5	110	8.0	3.0		
	1000	TYKW	45	0035	0042.6	15	8.0	2.0		
	1420	CRON	3	0039	0043	5.5	9.0	3.0		
	2695	CRON	3	0041	0042.5	.4	10.0	4.0		
	2695	PENT	3	0041.5	0043	4	10.2	5.1		
	2000	TYKW	29	0050		50	3.0	1.0		
	408	TRST	41	1022.9	1024.4	2.5	66.0			
	237	TRST	41	1024.2	1024.7	.8	38.0			
	2695	CANR	45	1052	1053.5	1.5	6.0	1.0		
	408	TRST	41	1104.6	1104.8	.6	37.0			
	930	BORD	45	1244	1244.6	1	17.0	2.0		
	3000	BERL	22	1250.8	1253.8	20	5.3	1.8		
	2800	OTTA	21	1252	1300	18	3.4	1.7		
	2800	OTTA	8	1252.7	1252.8	.3	1.8			
	2700	PENN		1252.7	1255.6	3.3	21.2	3.7		
	1500	BERL	4	1252.5	1253.7	15	15.0	1.3		
	2800	OTTA	1	1253.3	1254	1	3.0	1.6		
	1420	CANR	45	1253	1255	3	22.0	5.0		
	960	PENN		1253	1254	1.1	23.8	3.8		
	930	BORD	45	1253	1253.8	1	44.0	4.0		
	2800	OTTA	20	1900	2255	290	3.4	1.7		
	245	BOUL	41	2352	2359	9			1	
25	100	HIRA	5	0315	0315.4	1	50.0	15.0		
	113	POTS	45	0910.7	0910.8	.4	175.0	10.0		
	7000	SAOP	8	1311.4	1311.8	1	10.2	5.2		
	410	SGMR	6	1328.4	1329.2	5.8	5.8	2.4		
	245	SGMR	6	1328.2	1328.9	7.1	70.6	15.0		
	113	POTS	45	1328.4	1328.7	.8	140.0	15.0		
	245	SGMR	43	1335.4		534.7D				
	245	BOUL	41	1408	1413	16			1	
	245	BOUL	42	1439	1540	66			2	
	2800	OTTA	20	1515	1523	15	1.6	0.8		
	225	HARS	45	1535	1536.5	2.5	80.0	25.0		
	2800	OTTA	21	1600	1705	210	3.4	1.7		
	2800	OTTA	20	1634	1635	15	1.6	0.8		
	245	BOUL	42	1757	2233	307			2	
	2800	OTTA	20	2137	2150	55	3.4	1.7		
	2695	PENT	21	2235	2250	65	2.2	1.1		
	208	VORO	24	2242	2249.6	15	176.0			
	2695	MANI	1	2319.5	2320.9	2	3.9	1.3		
	4995	MANI	1	2320.5	2321	.9	6.6	2.6		
	3750	TYKW	1	2320	2320.7	2	10.0	3.0		
	2695	PENT	1	2320.5	2321	1	4.2	2.1		
	2000	TYKW	1	2320	2320.9	2	2.0	1.0		
	245	BOUL	41	2332	2334	5			1	
26	9400	TYKW	45	0146	0225	120	12.0	6.0		
	3750	TYKW	45	0146	0225	110	13.0	7.0		
	2000	TYKW	45	0149	0152	100	5.0	3.0		
	8800	MANI	1	0154.5	0154.7	1.3	4.8	2.4		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

SEPTEMBER 1972

SEP. 1972	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
26	4995	MANI	1	0154.5	0154.7	4.2	2.6	1.3		
	225	HARS	45	0715.5	0716.5	2	35.0	10.0		
	237	TRST	41	0716	0716.8	1.4	490.0			
	210	IZMI	6	0716.4	0716.6	1	120.0	70.0		
	200	HIRA	6	0716.8	0717	1	170.0	50.0		
	113	POTS	45	1120.3	1120.3	.1	350.0	70.0		
	100	GORK	6	1145.8	1146.2	.7	60.0	30.0		
	113	POTS	45	1159.2	1159.3	1.3	210.0	25.0		
	100	GORK	41	1159.1	1159.5	2.3	100.0D			
	100	GORK		1159.1	1200.5		100.0			
	30	UPIC	45	1159	1204	7				
	245	SGMR	6	1200.4	1202.5	3.8	12.8	18.0		
	930	BORD	5	1256	1256.8	1	25.0	2.0		
	550	KIEV	6	1357.5	1357.9	1	61.0			
	2800	OTTA	20	1440	1605	350	6.2	3.1		
	237	TRST	41	1502.5	1502.6	.4	63.0			
	9400	HUAN	20	2039.4	2035.7	11.2	7.5	3.7		
	208	VORO	42	2216	2225.8	14	55.0			
	2000	TYKW	3	2224	2226.8	5	55.0	7.0		
	606	MANI	1	2224.6	2226.9	4.6	4.1	2.0		
	100	HIRA	6	2224.8	2226.8	3.5	120.0	40.0		
	2695	PENT	45	2225	2226.8	3	22.0	6.4		
	200	HIRA	6	2225	2226	2.5	70.0	30.0		
	4995	MANI	1	2226.4	2226.7	1.3	6.8	2.7		
	3750	TYKW	1	2226.5	2226.8	1	6.0	2.0		
	2695	MANI	3	2226.1	2226.7	2.2	22.7	7.6		
	1415	MANI	3	2226.1	2226.7	1.2	9.7	4.1		
	1000	TYKW	1	2226	2226.9	2	5.0	2.0		
	2695	BOUL	8	2227	2227.5	3	23.0	7.0		
	1420	BOUL	8	2227.5	2229	3.5	20.0	9.0		
	2695	PENT	29	2228		25	4.8	2.4		
27	113	POTS	5	0759.9	0759.9	.1	770.0	250.0		
	210	IZMI	6	0816.1	0816.1	.2	150.0	25.0		
	2800	OTTA	20	1450	1625	240	3.6	1.8		
	100	HIRA	6	2036.8	2036.8	1	110.0	30.0		
28	208	VORO	48	0018	0031.6	18	512.0	310.0		
	100	HIRA	6	0225.4	0226.3	2	200.0	80.0		
	200	HIRA	6	0226	0226	.7	50.0	30.0		
	113	POTS	5	0649.7	0649.7	.1	250.0	80.0		
	100	GORK	6	1106.9	1107.1	.8	200.0	100.0		
	410	SGMR	6	1111.7	1111.8	.3	2.8	.9		
	245	SGMR	6	1111.3	1111.6	.7	84.0	12.6		
	237	TRST	41	1111.4	1111.6	.4	340.0D			
	234	POTS	5	1111.6	1111.6	.1	350.0	90.0		
	113	POTS	45	1111.6	1111.8	.5	700.0	175.0		
	100	GORK	6	1111.8	1112.1	.4	200.0D			
	23	POTS	45	1111.6	1111.9	.8	35000.0	9000.0		
	7000	SAOP	8	1150.8E	1150.8	.4U	20.7	10.1		
	100	GORK	6	1224.5	1224.8	.9	200.0	100.0		
	18	BOUL	42	1415	1433	33			1	
	410	SGMR	6	1417.8	1418.3	1.8	26.0	8.5		
	245	SGMR	7	1417.8	1418.3	2	275.0	92.0		
	237	TRST	41	1417.9	1418.2	.5	960.0			
	225	HARS	5	1417	1417.5	1.5	120.0	40.0		
	18	MCMA	6	1417	1418	2			1	
	2700	PENN	1	1418.4	1418.5	.4	4.0	1.8		
	606	SGMR	2	1418.1	1418.3	1.1	21.0	.6		
	234	POTS	45	1418.3	1418.4	.1	450.0	90.0		
	113	POTS	45	1418.2	1418.4	.7	800.0	200.0		
	2700	PENN	41	1457.6	1500.4	3.2	7.0			
	18	MCMA	41	1549	1550	4			1	
	18	BOUL	6	1620	1622	2			1	
	410	SGMR	6	1621.2	1621.5	.5	18.0	4.0		
	245	SGMR	7	1621.1	1621.5	1	360.0	75.0		
	18	MCMA	6	1621	1622	2			1	
	2695	SGMR	1	1720.9	1722.2	8.4	2.6	1.3		
	1415	SGMR	1	1720.4	1723.5	8.9	1.8	1.0		
	410	SGMR	6	1720.7	1721.4	1.3	9.0	3.0		
	245	SGMR	6	1720.5	1721.3	3.5	105.0	20.0		
	18	MCMA	41	1720	1721	4			1	
	18	BOUL	6	1720	1722	4			1	
	8800	SGMR	1	1721.2	1721.5	2.6	4.5	2.2		
	4995	SGMR	1	1721.1	1721.3	4.2	3.2	1.6		
	2700	PENN	1	1721.1	1721.4	.8	4.1	2.0		
	2695	PENT	1	1721	1721.5	1	1.4	0.7		
	18	MCMA	6	1750	1752	3			1	
	2800	OTTA	20	1900	2000	105	1.2	0.6		
	200	HIRA	6	2144.4	2144.5U		60.0	20.0		
	208	VORO	6	2145	2145.7	1	132.0	105.0		
	208	VORO	6	2340.7	2341.3	1.5	100.0	29.0		
29	208	VORO	6	0015.3	0015.3	2	254.0	85.0		
	200	HIRA	6	0015	0015.5	1	400.0	80.0		
	100	HIRA	6	0015.2	0015.7	2	60.0	15.0		
	100	GORK	41	1228.3	1230.8	6.6	250.0			
	100	GORK		1228.3	1234.3		250.0			
	113	POTS	41	1230.7	1230.8	4.1	250.0	3.0		
	2800	OTTA	25	1925		85	4.2			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

SEPTEMBER 1972

SEP 1972	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
	2800	OTTA	1	1926.5	1927.9	5	2.8	1.4		
	2695	PENT	1	2217	2217.5	3	.8	0.4		
30	200	HIRA	6	0042.5	0042.5	.5	150.0	70.0		
	100	HIRA	5	0552.5	0552.9	1	60.0	10.0		
	237	TRST	5	1440.2	1440.3	.2	62.0	20.0		

Observatories:

ABST = Abastumani
ARCE = Arcetri
BERL = Berlin-Adlershof
BORD = Bordeaux
BOUL = Boulder
CANR = Canary Islands
CRIM = Simferopol
CROH = Carnarvon
GORK = Gorky
HARS = Harestua
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
IZMI = Moscow IZMIRAN
KIEV = Kiev
MANI = Manila
MCMA = McMath-Hulbert
ONDR = Ondrejov
OTTA = Ottawa ARO
PENN = Penn. State Univ.
PENT = Penticton
POTS = Potsdam
SLOU = Slough
SGMR = Sagamore Hill
TOKO = Tokyo
TRST = Trieste
TYKW = Toyokawa
UPIC = Upice
VORO = Voroshilov

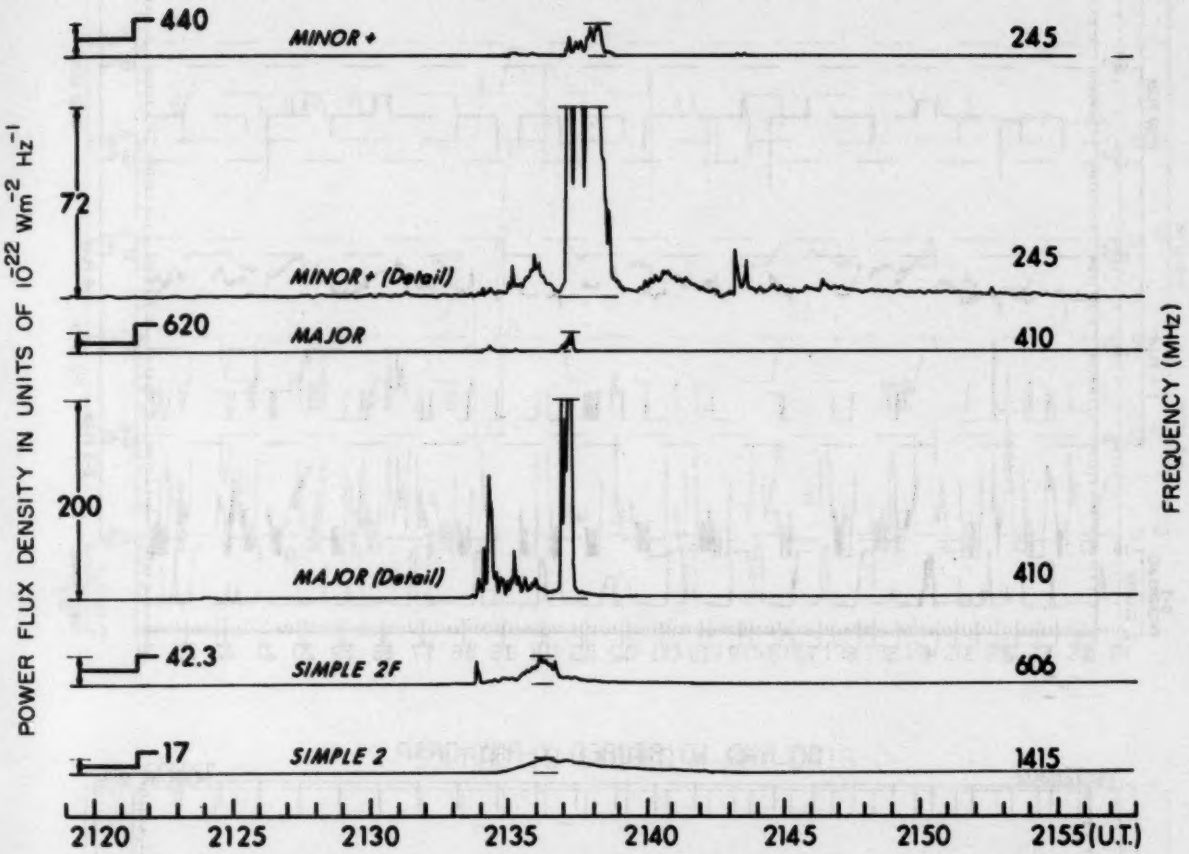
Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

POWER FLUX DENSITY IN UNITS OF 10^{-22} Wm^{-2} Hz^{-1}

SELECTED SOLAR NOISE BURST

6 SEPTEMBER 1972

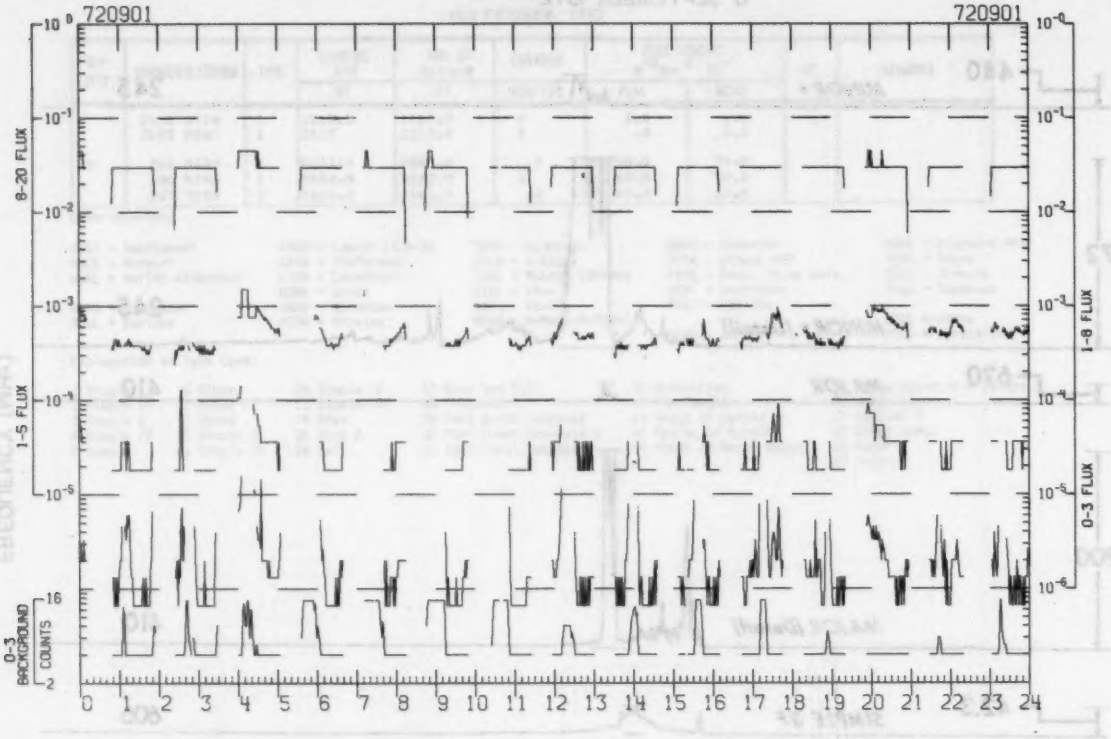


RADIO BURST OBSERVED ON 6 SEPTEMBER, 1972 SAGAMORE HILL RADIO OBSERVATORY
HAMILTON, MASS.

34
Sep 72

SOLAR X-RAYS MEASURED BY SATELLITE SOLRAD 10 - EXPLORER 44

SEPTEMBER 1972



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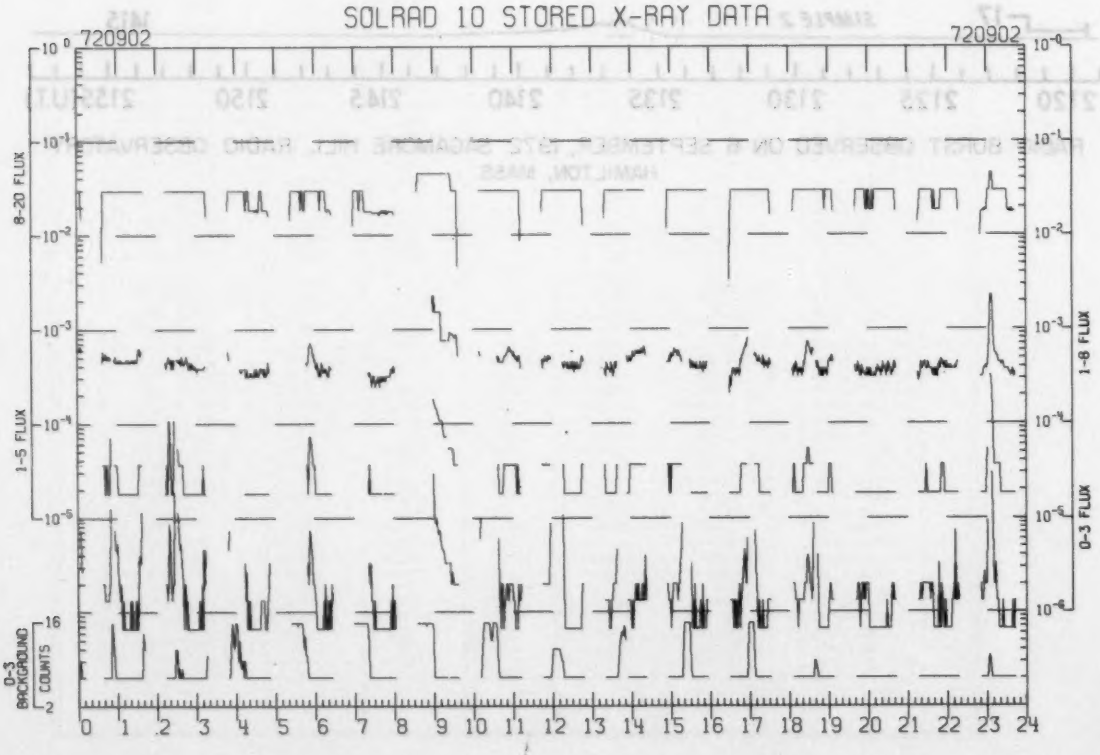

SOLRAD 10 STORED X-RAY DATA

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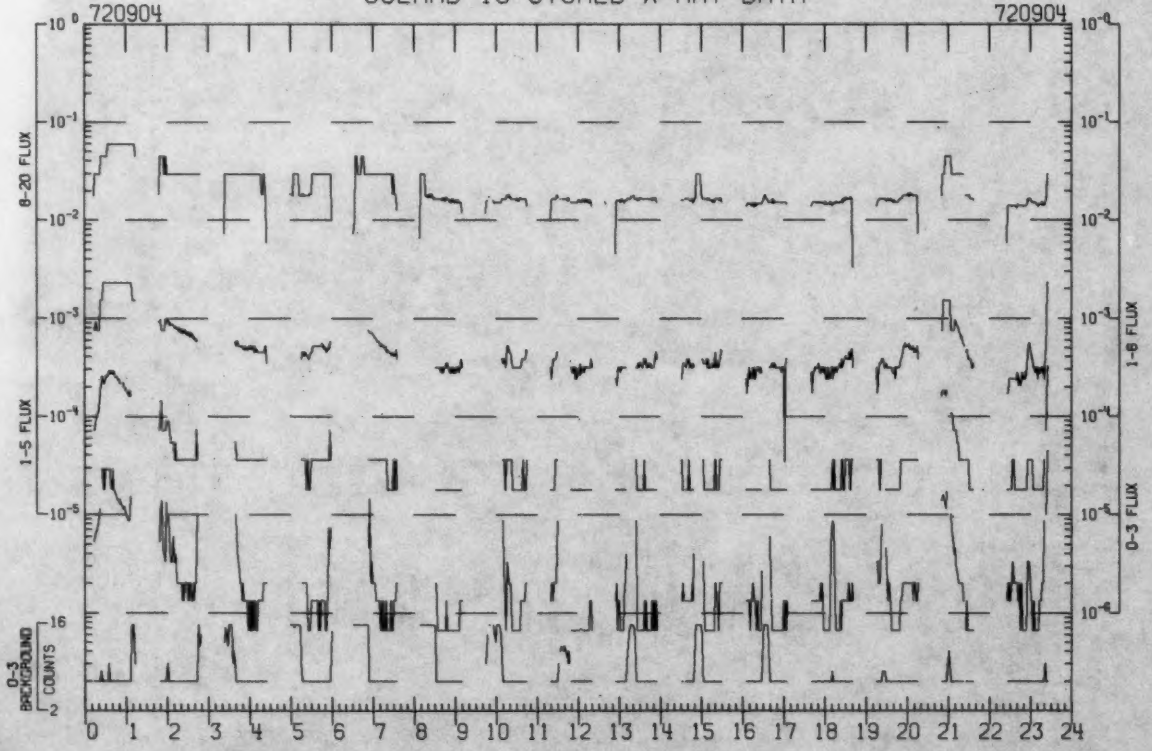
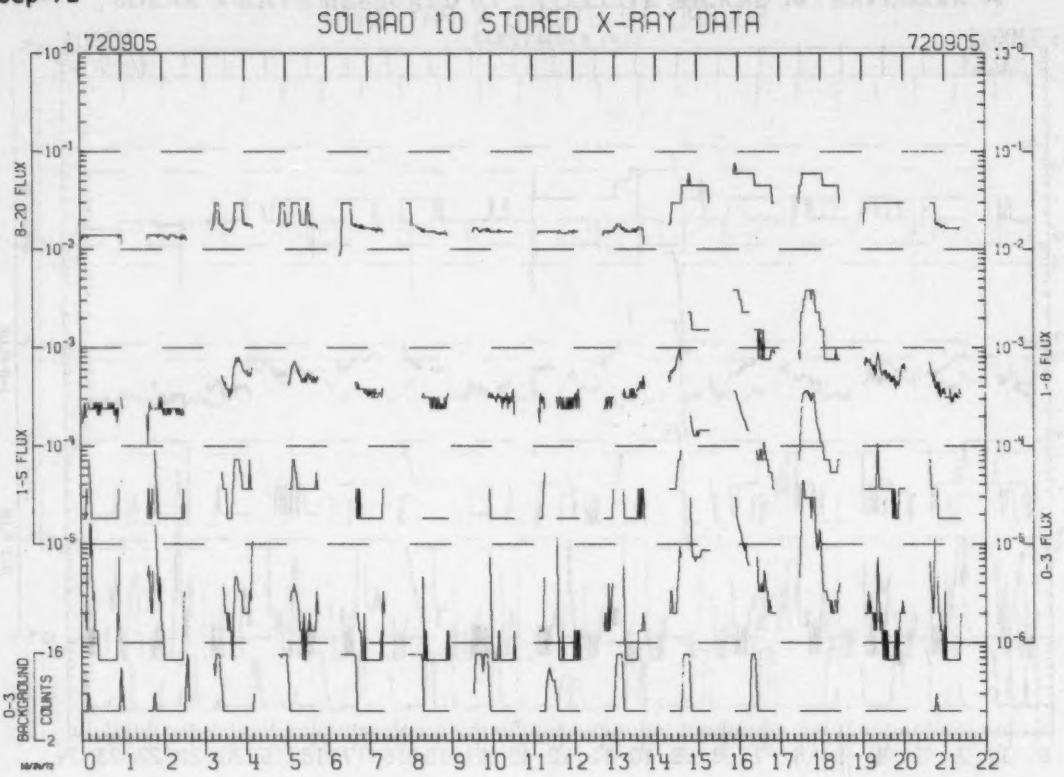
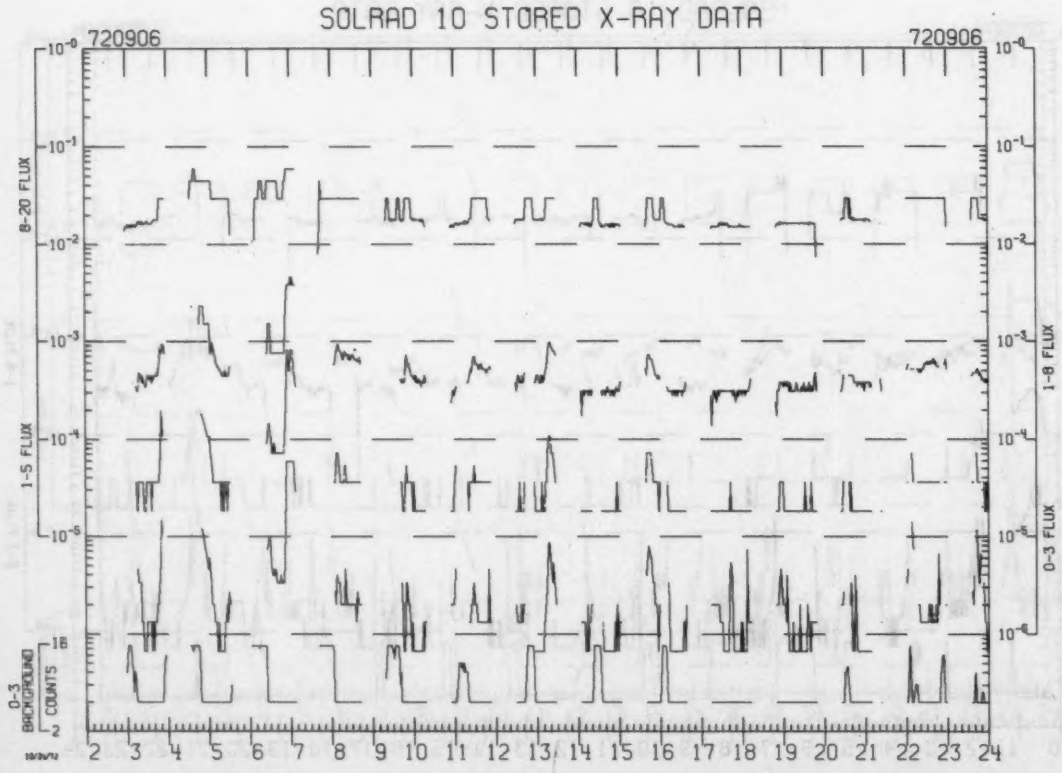
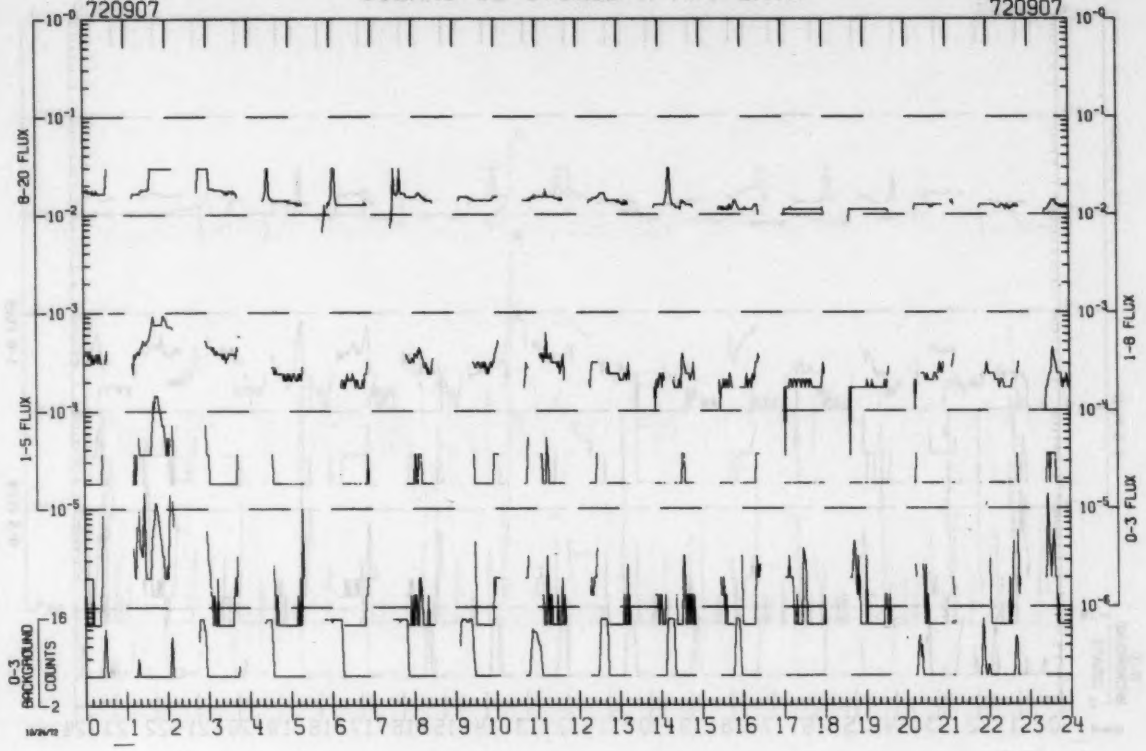



SOLRAD 10 STORED X-RAY DATA
720905
720905
8-20 FLUX
1-5 FLUX
1-8 FLUX
0-3 FLUX
0-3 BACKGROUND COUNTS
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22


SOLRAD 10 STORED X-RAY DATA
720906
720906
8-20 FLUX
1-5 FLUX
1-8 FLUX
0-3 FLUX
0-3 BACKGROUND COUNTS
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

SOLRAD 10 STORED X-RAY DATA



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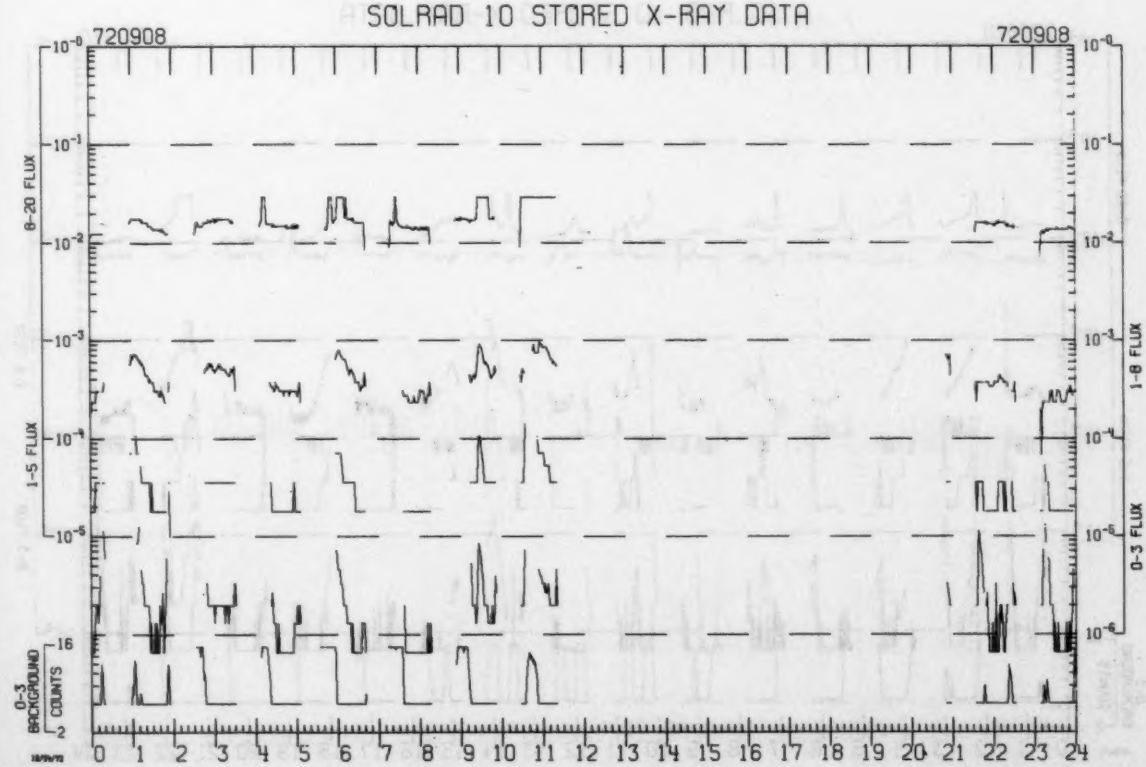

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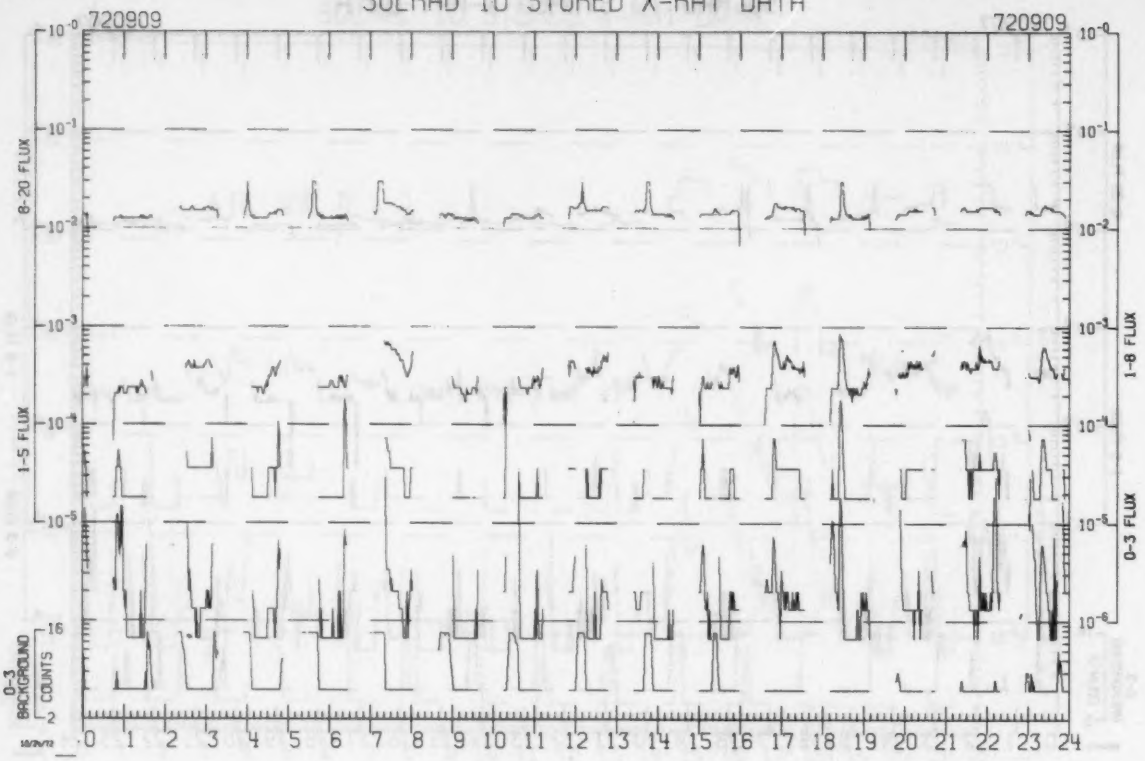

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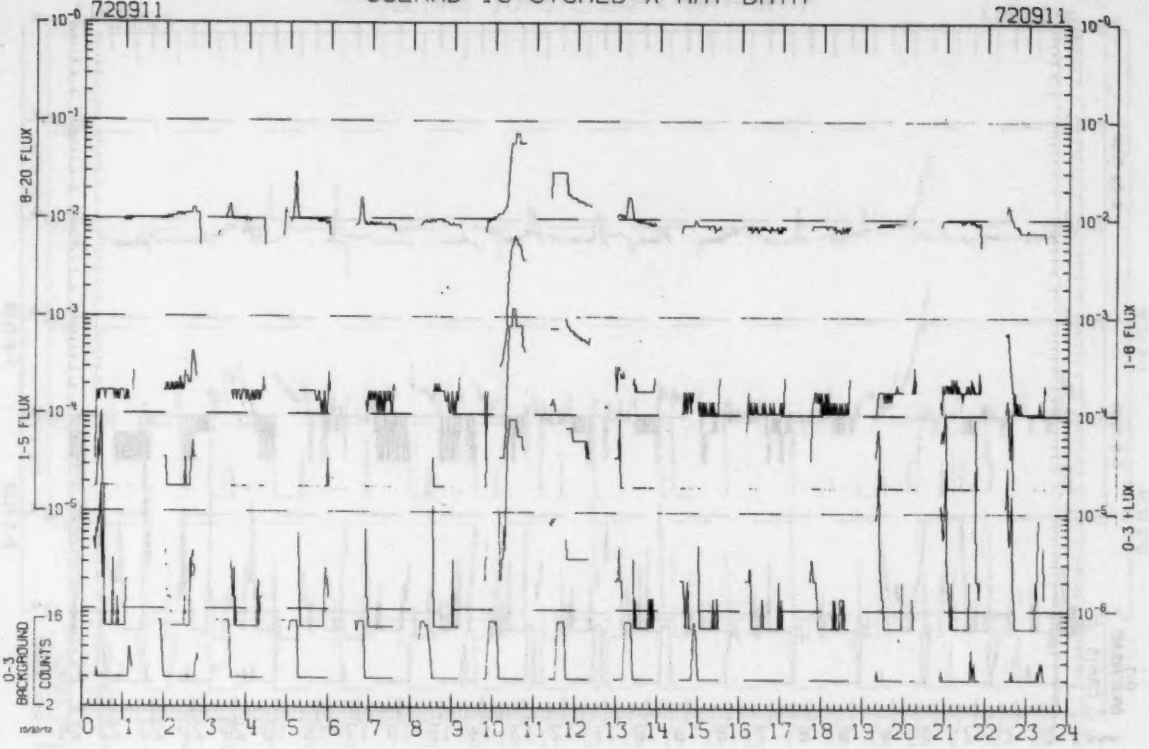

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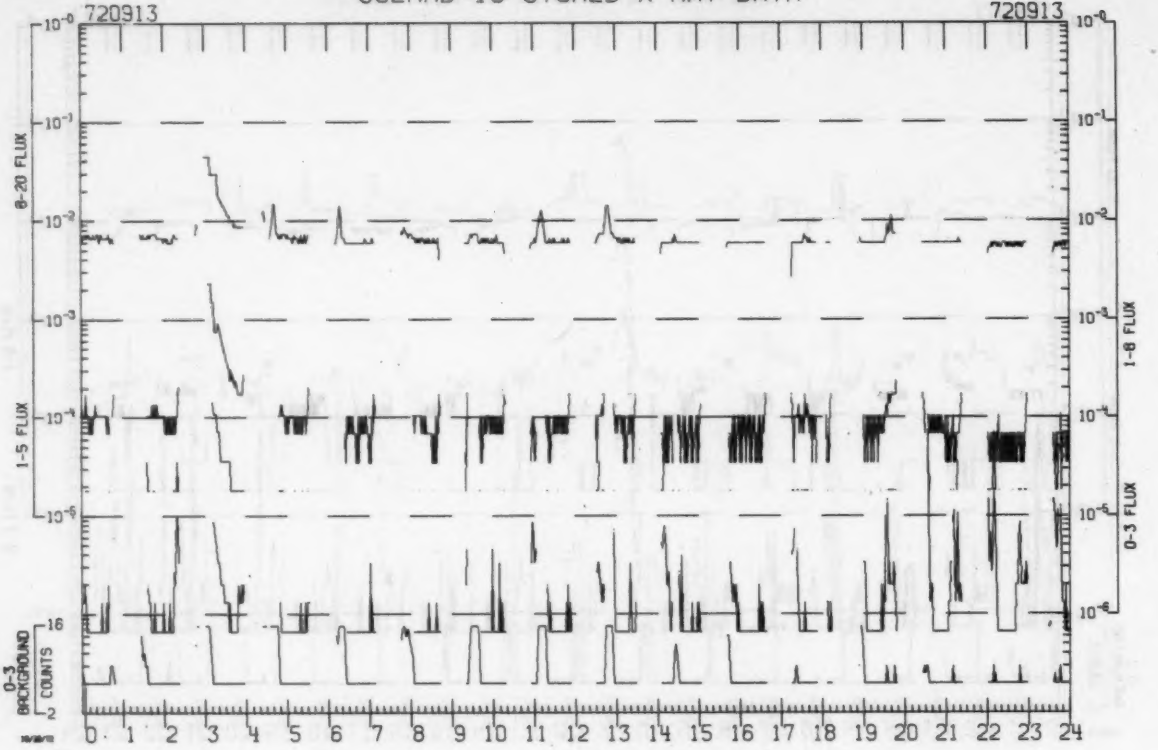
SOLRAD 10 STORED X-RAY DATA



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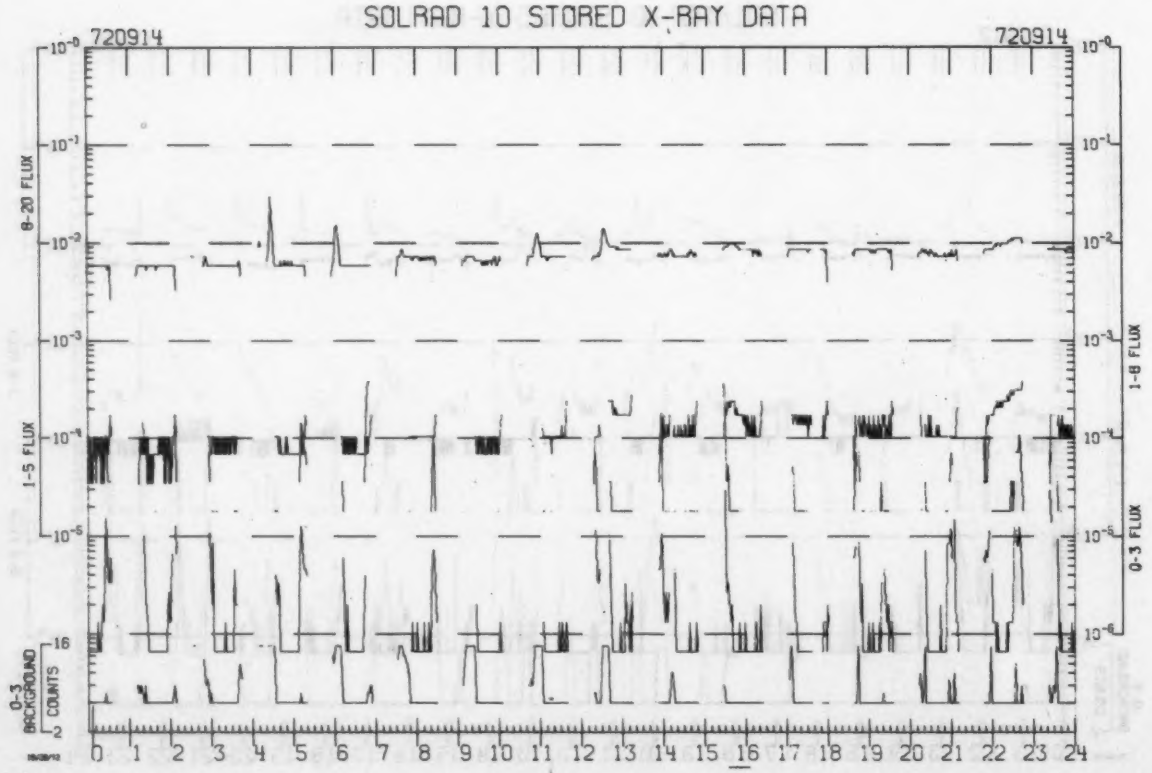

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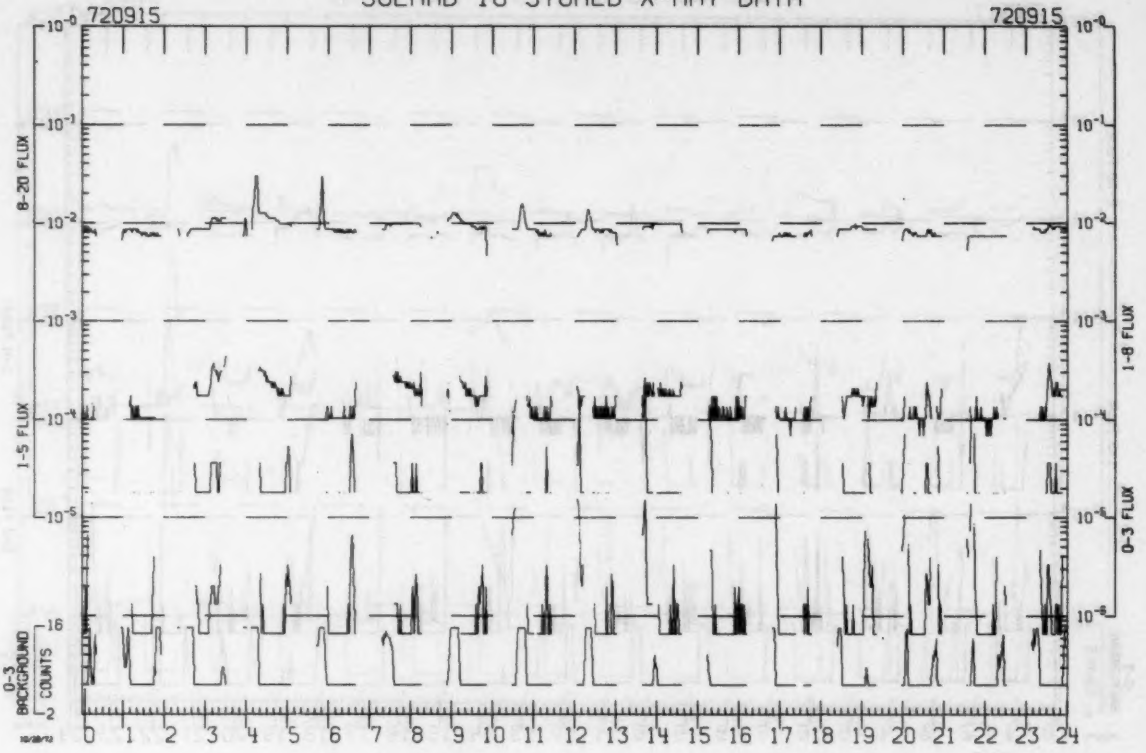

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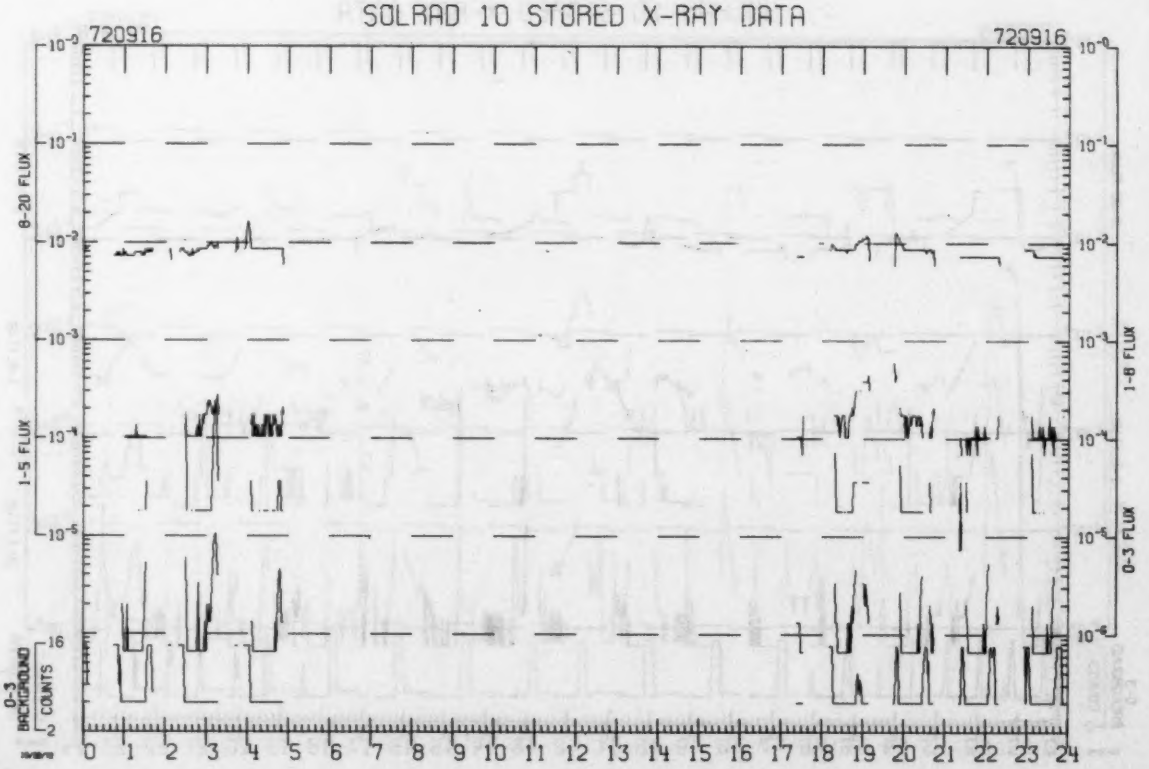

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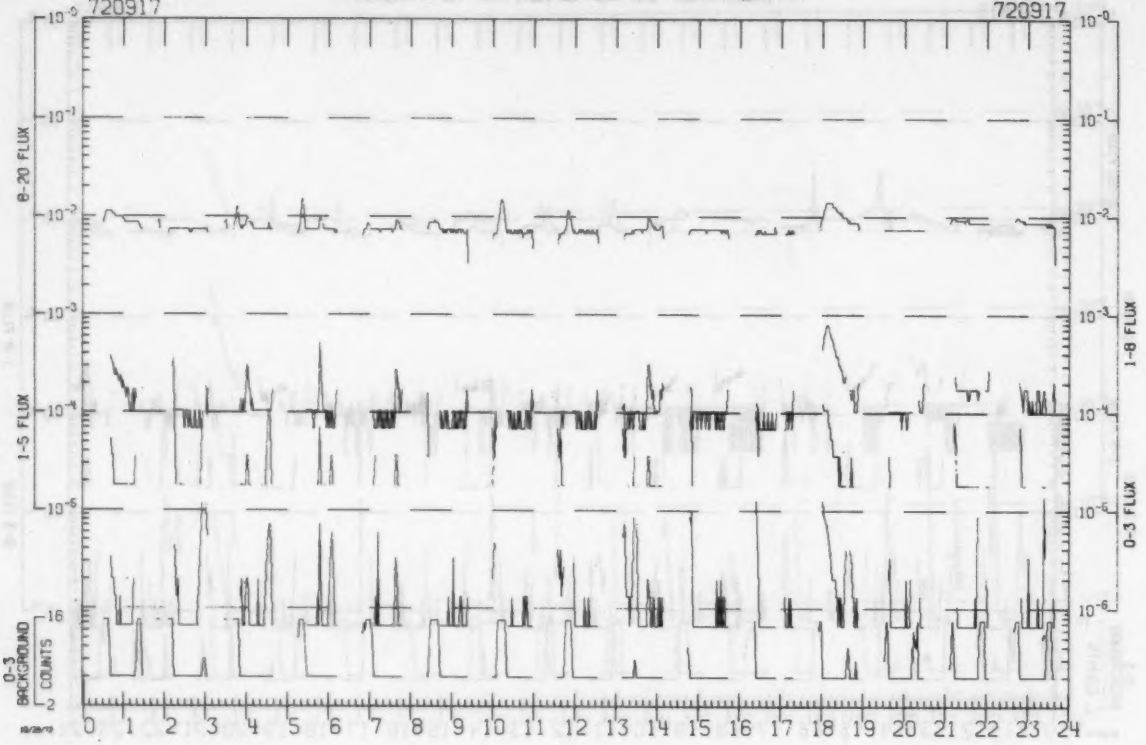

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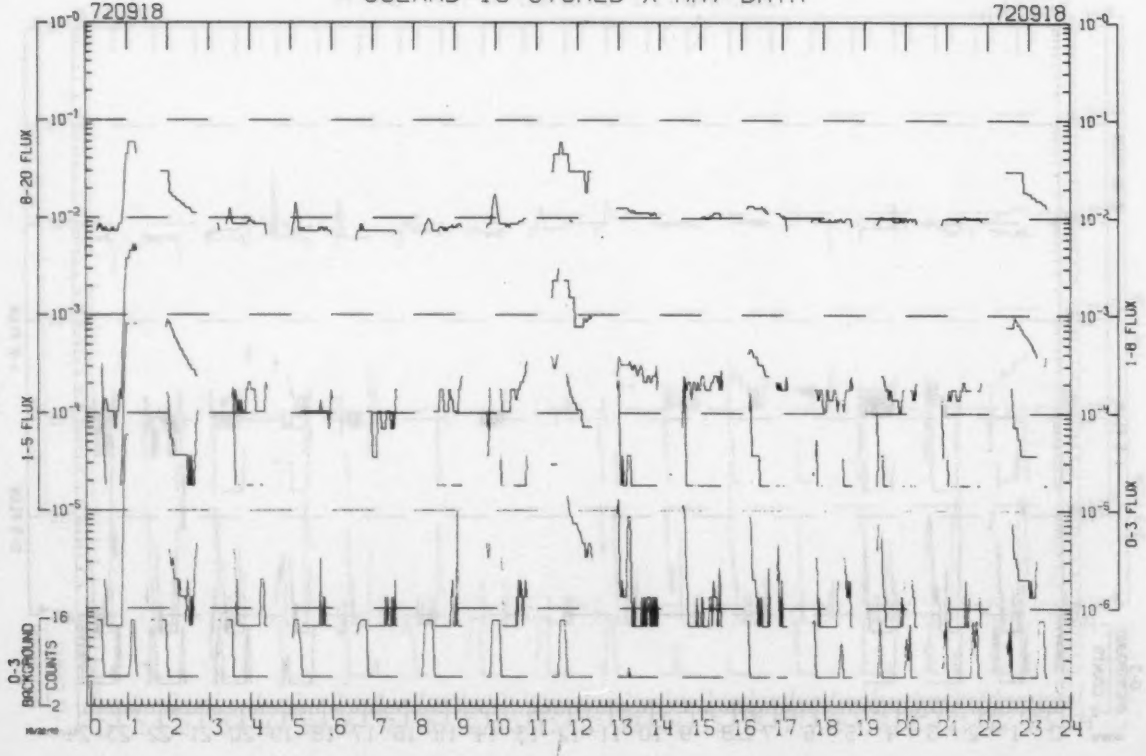

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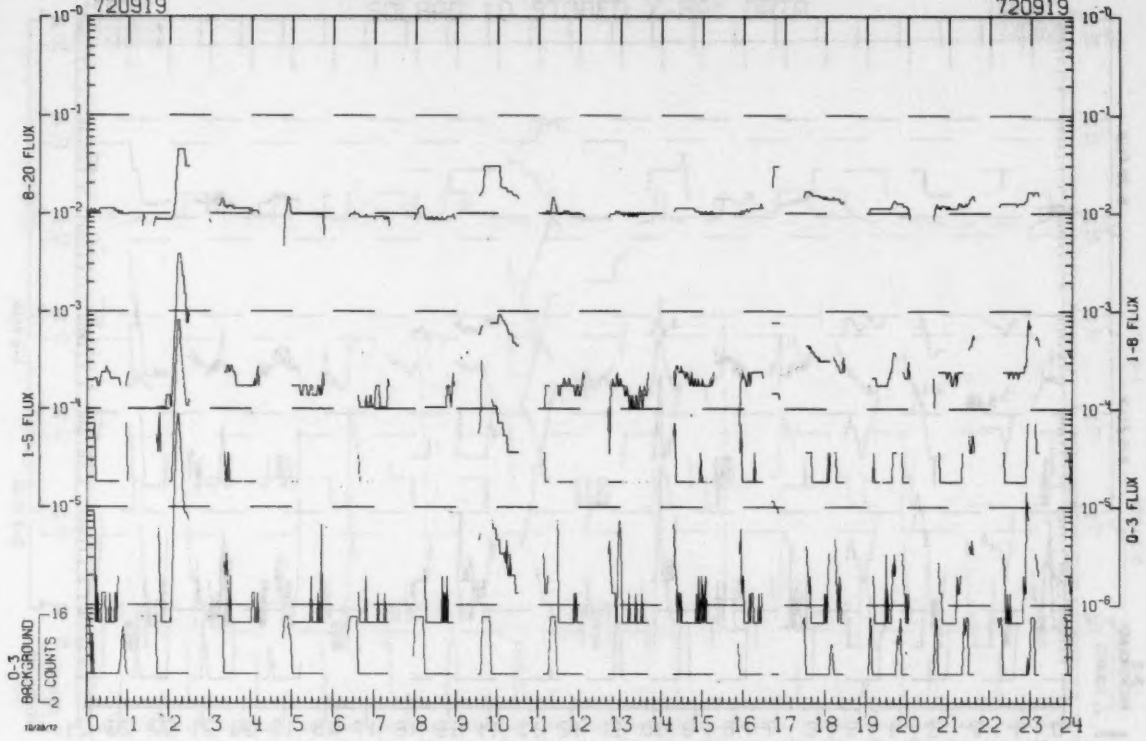

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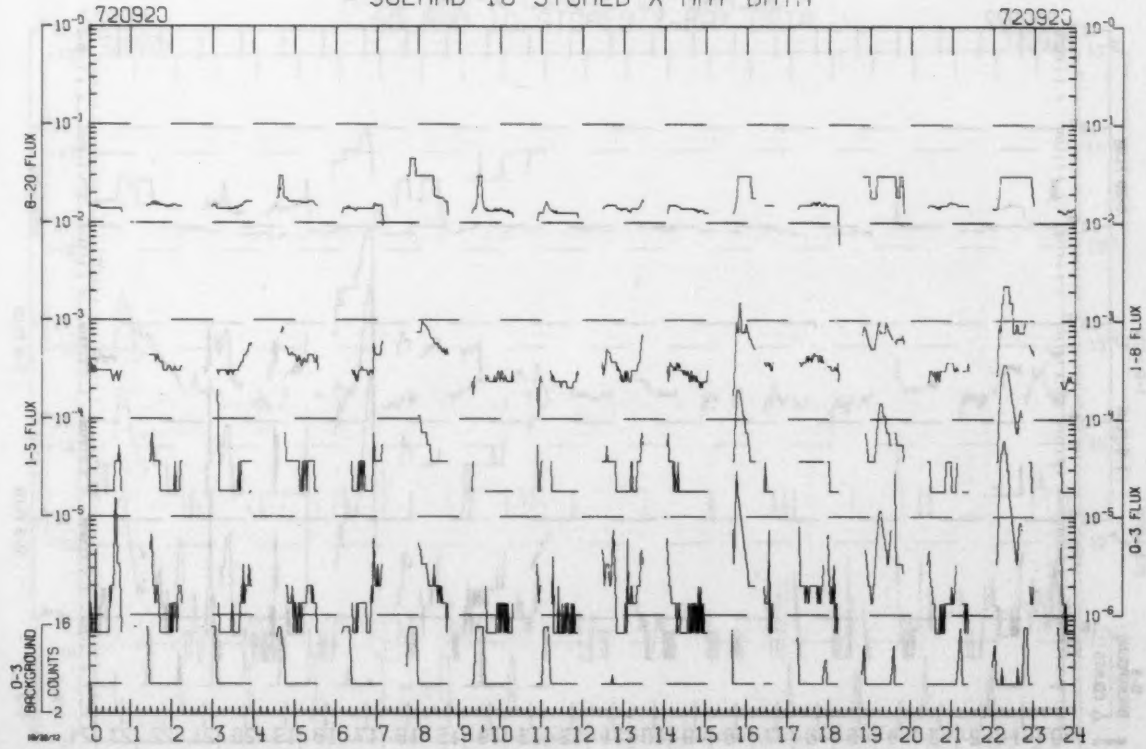
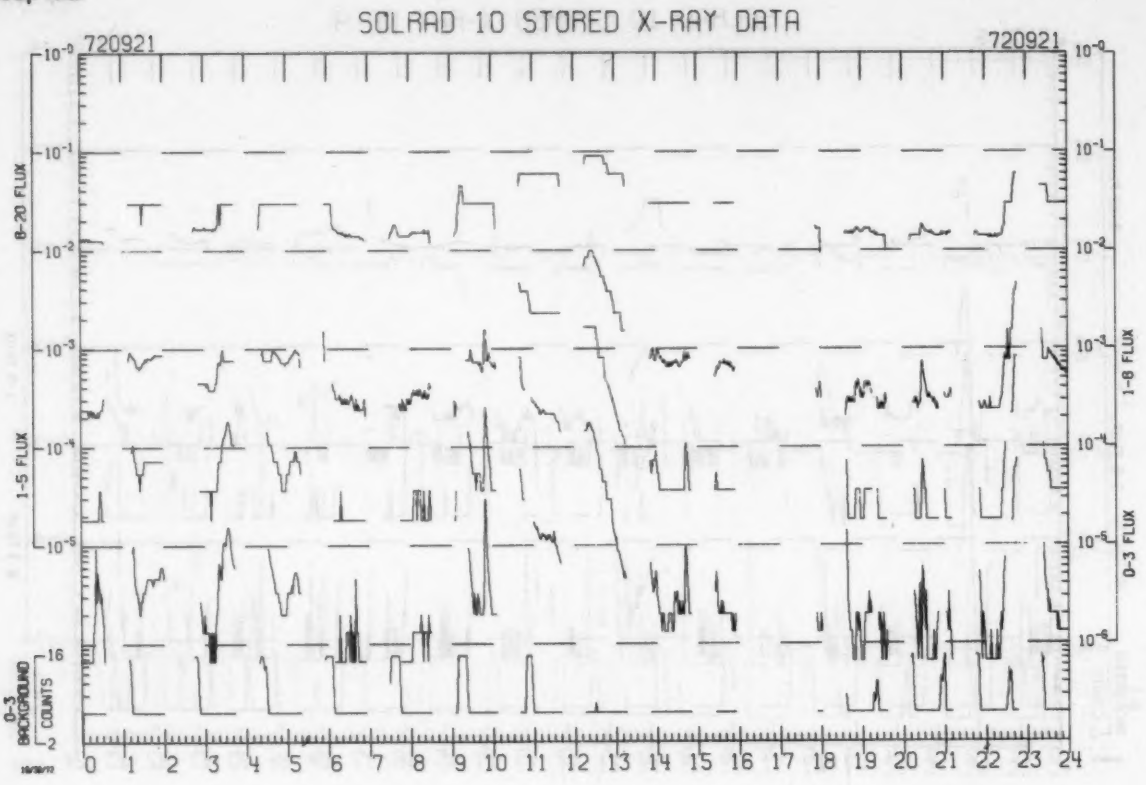
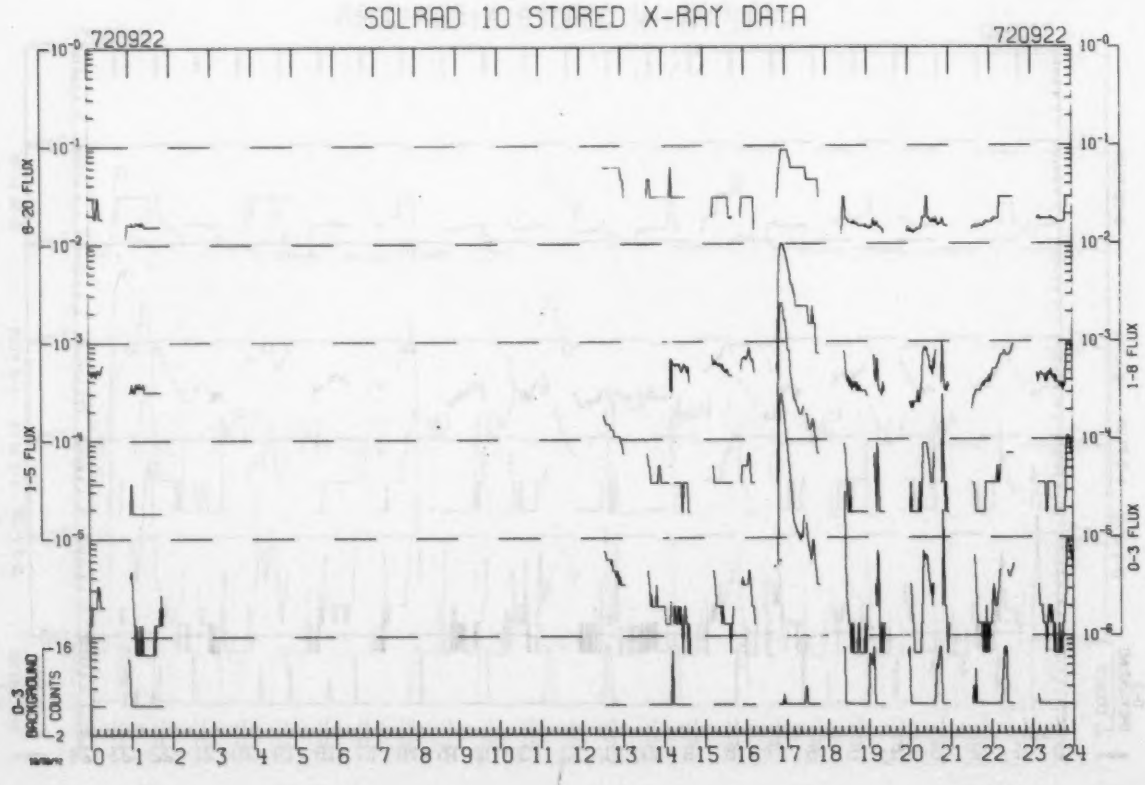



SOLRAD 10 STORED X-RAY DATA
720921
720921
0-20 FLUX
1-5 FLUX
1-8 FLUX
0-3 FLUX
0-3 BACKGROUND COUNTS
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24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720922
720922
0-20 FLUX
1-5 FLUX
1-8 FLUX
0-3 FLUX
0-3 BACKGROUND COUNTS
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

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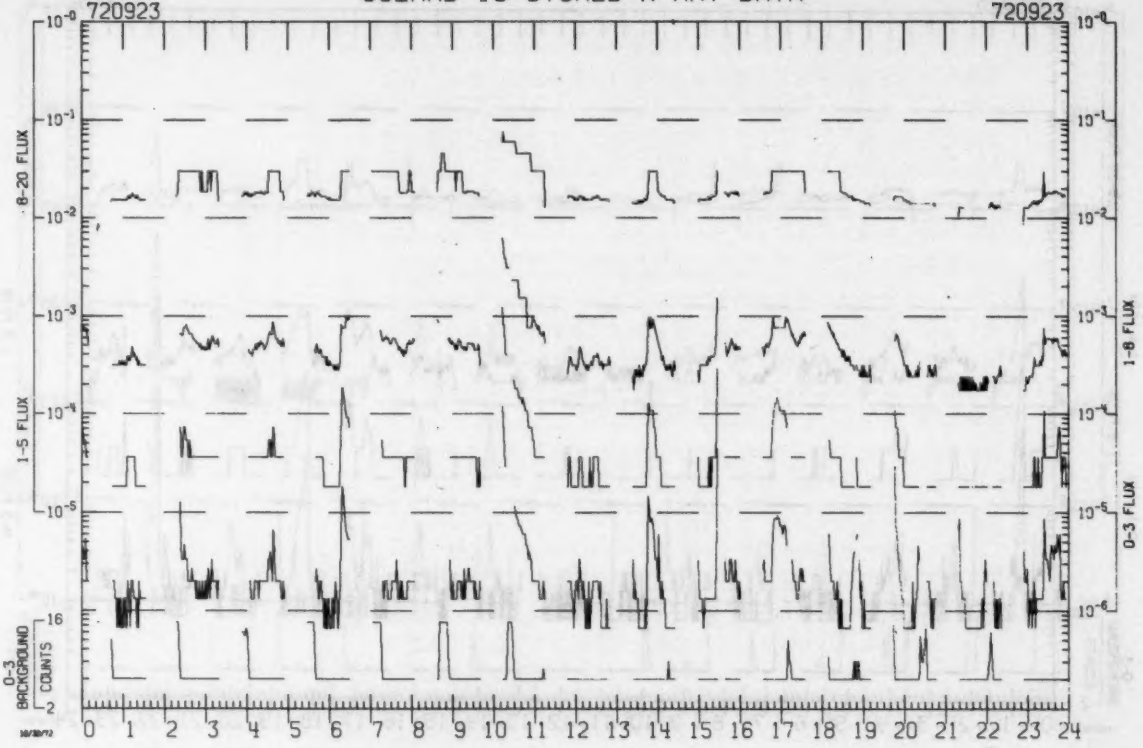

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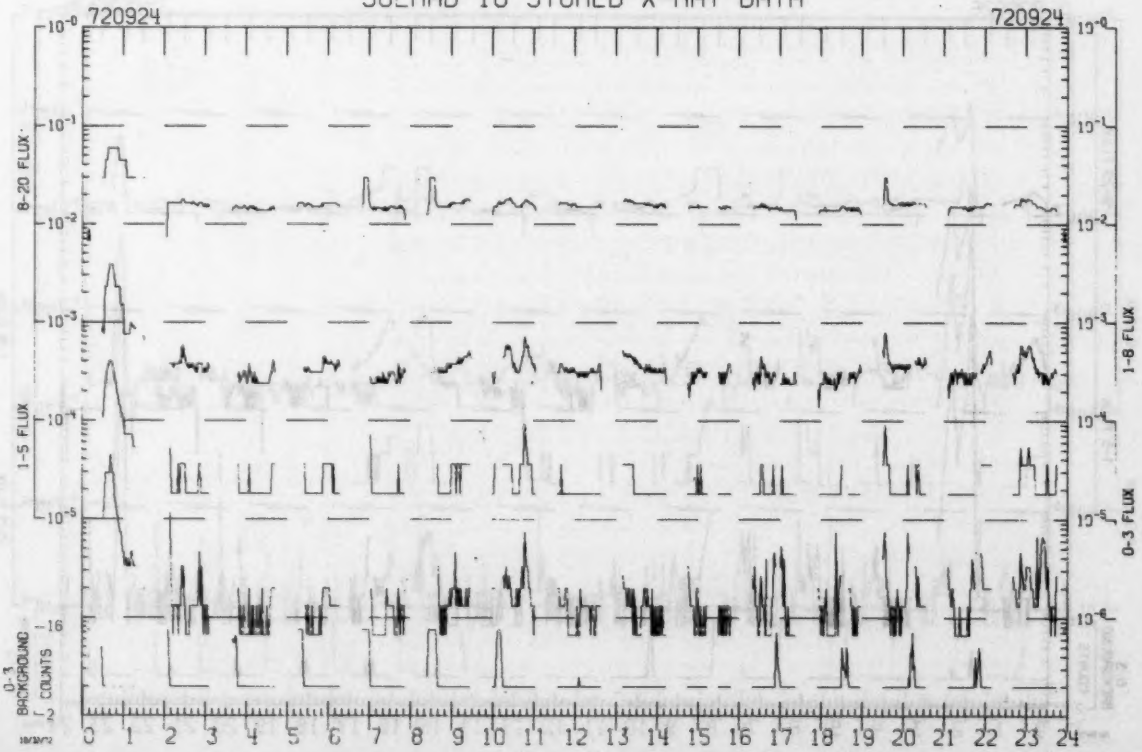

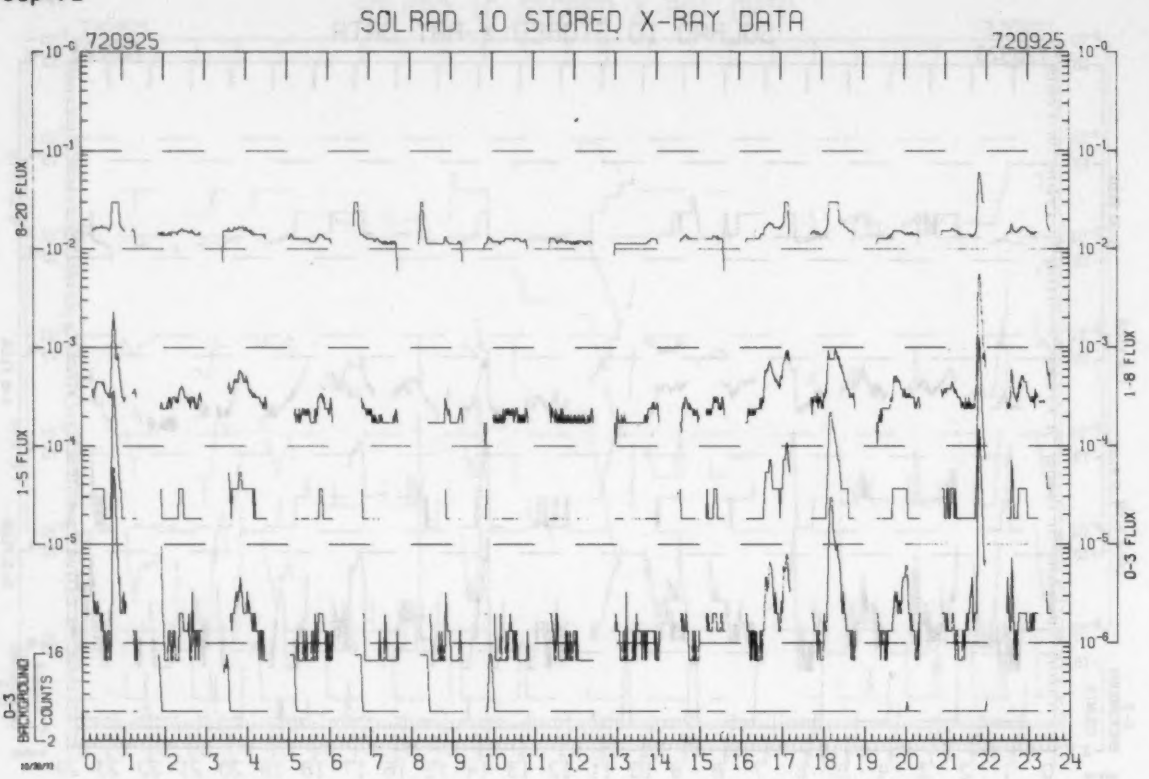
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720925
720925
8-20 FLUX
1-5 FLUX
1-8 FLUX
0-3 FLUX
0-3 BACKGROUND COUNTS
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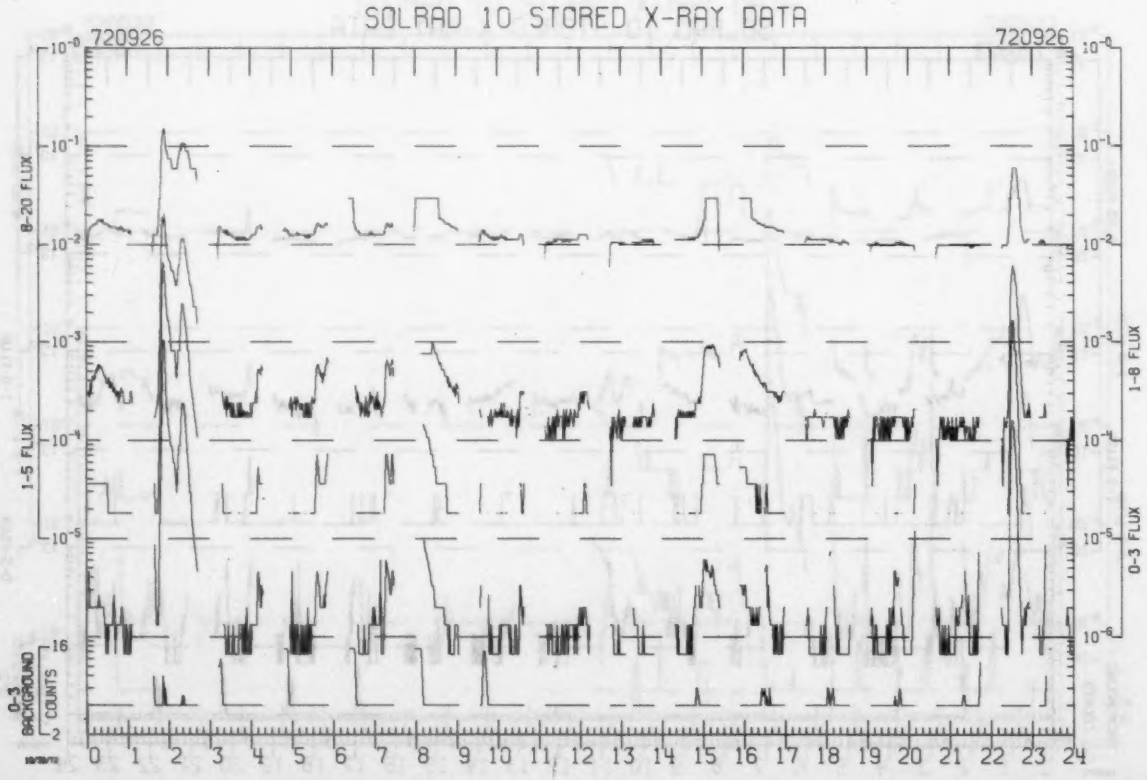
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720926
720926
8-20 FLUX
1-5 FLUX
1-8 FLUX
0-3 FLUX
0-3 BACKGROUND COUNTS
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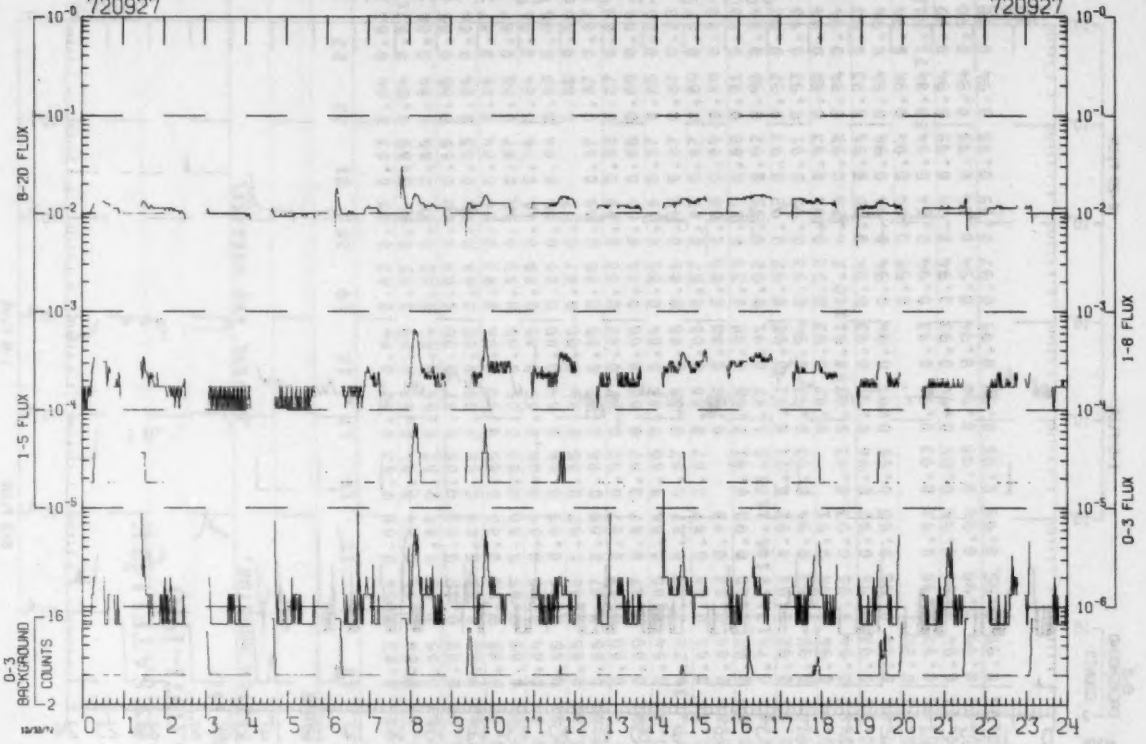

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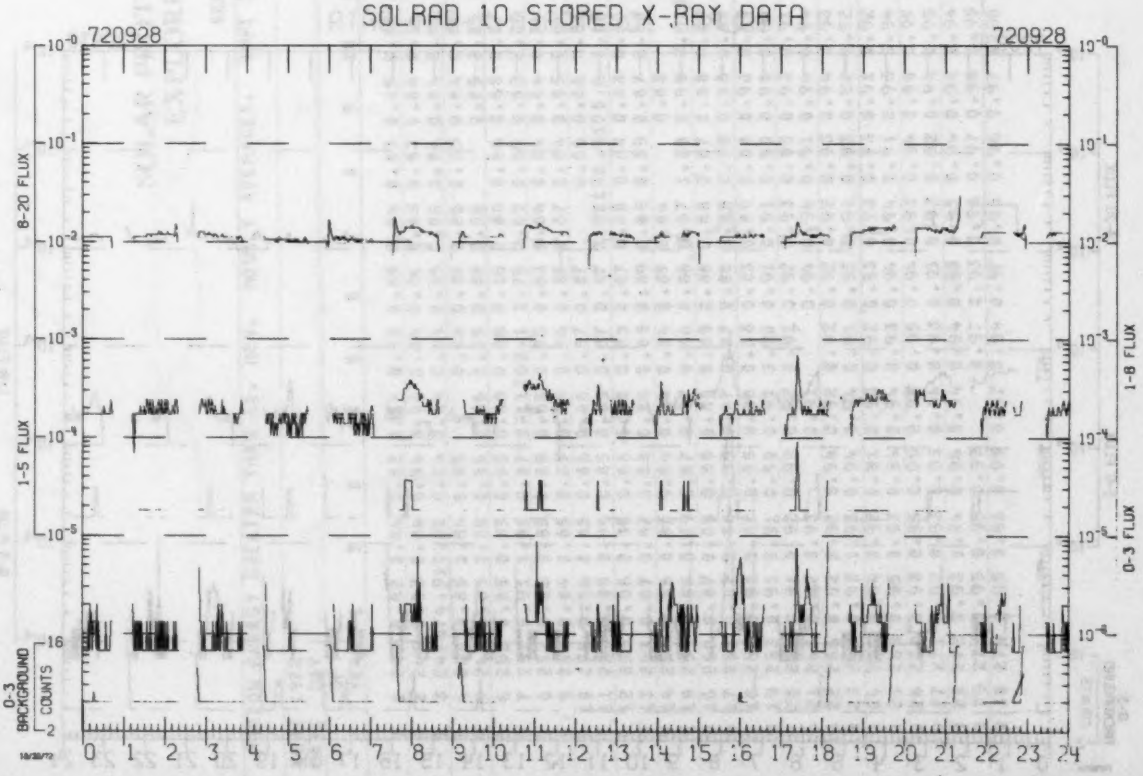

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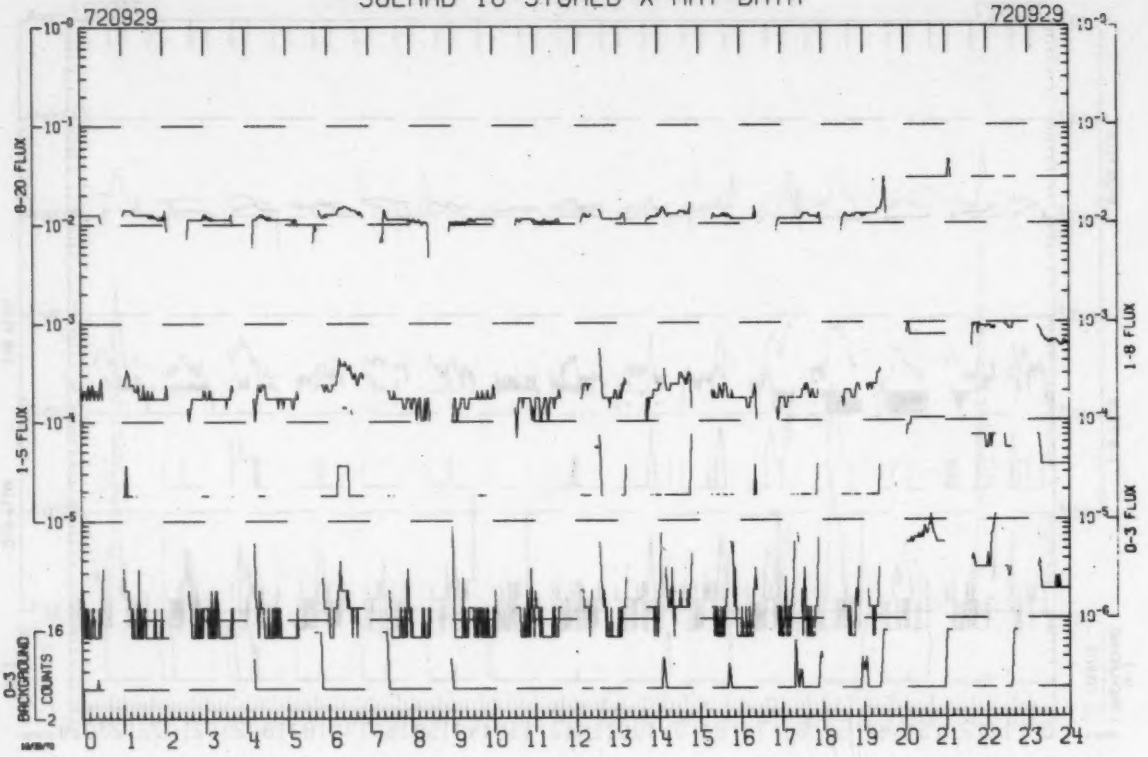

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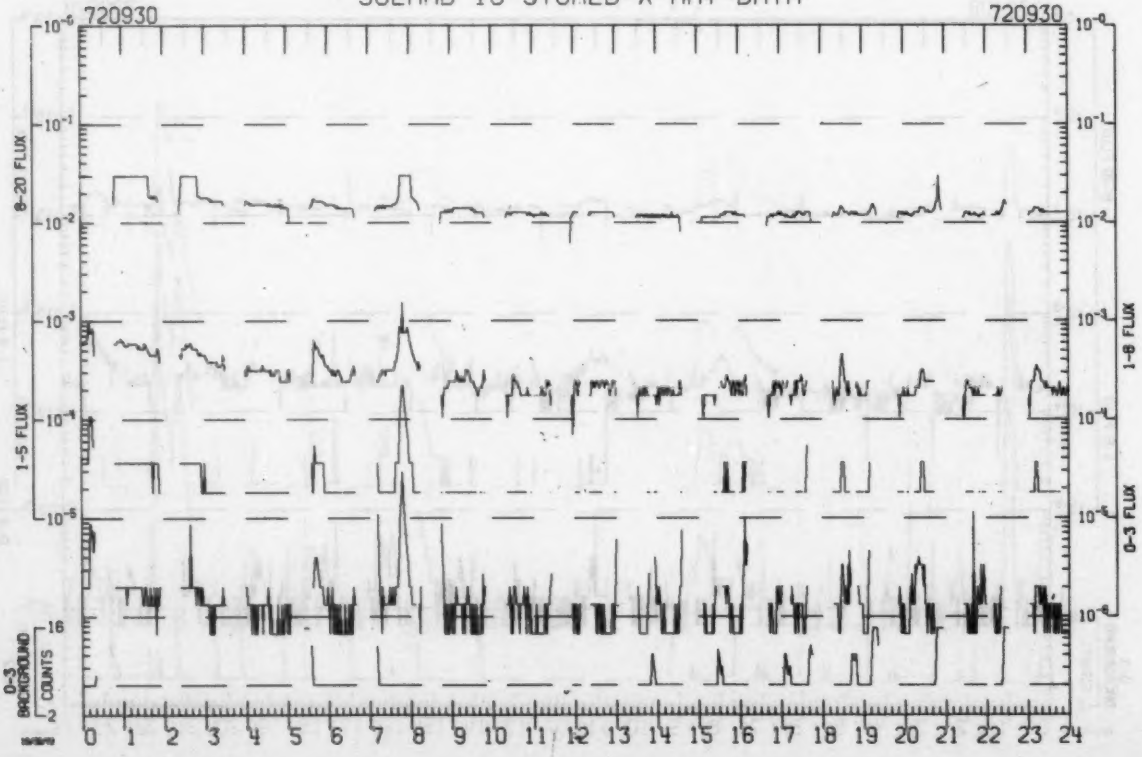


SOLAR PROTONS BY SATELLITE
EXPLORER 43 (1971-19A)

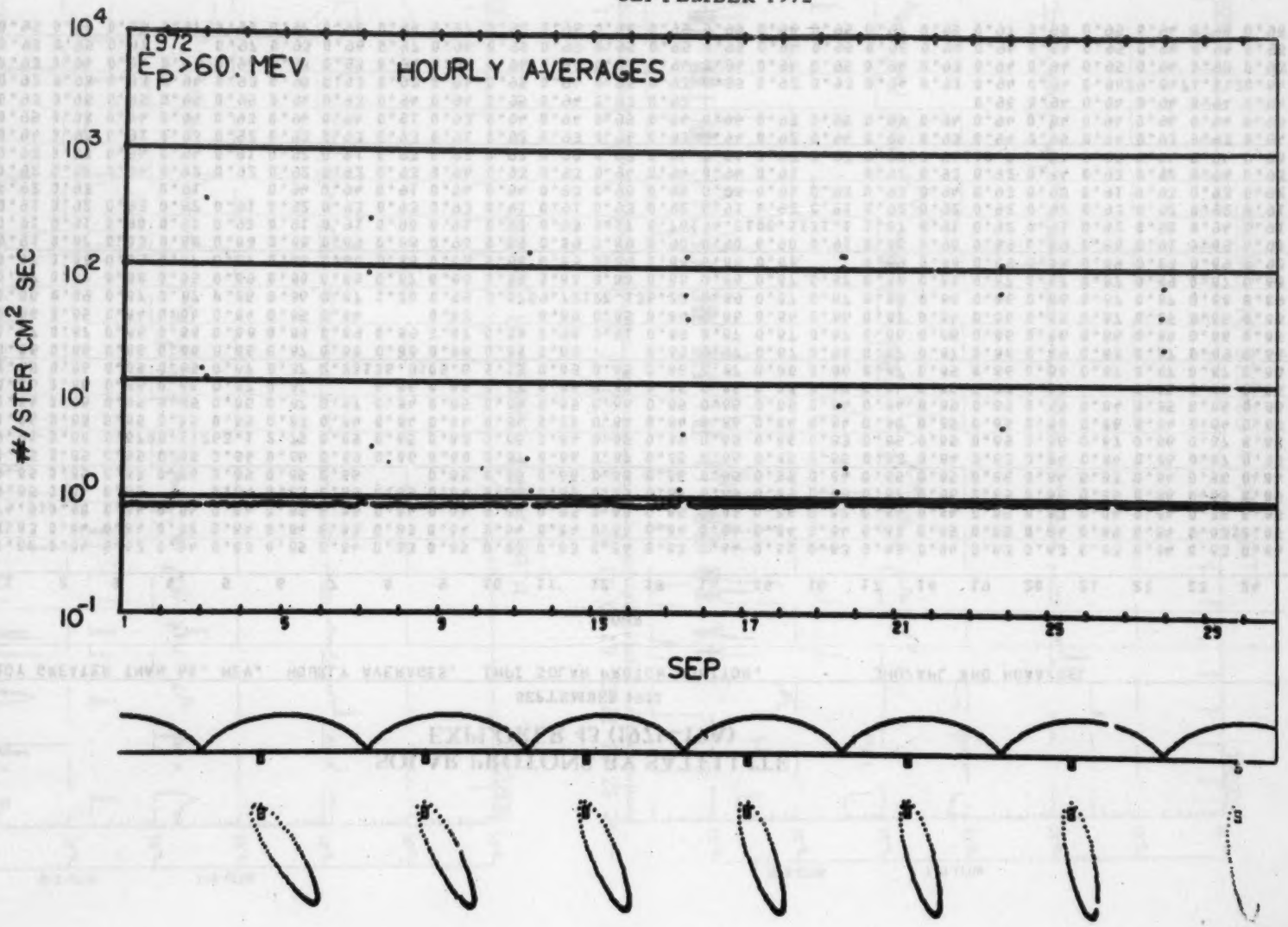
SEPTEMBER 1972

PROTON ENERGY GREATER THAN 60. MEV. HOURLY AVERAGES. IMPI SOLAR PROTON MONITOR. JHU/APL AND NOAA/SEL

YEAR DATE	1972 DAY OF YEAR	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
9 1	245	0.82	0.84	0.82	0.84	0.83	0.85	0.84	0.83	0.85	0.83	0.83	0.84	0.83	0.84	0.81	0.83	0.83	0.84	0.83	0.83	0.83	0.84	0.83	0.84
9 2	246	0.83	0.84	0.84	0.82	0.84	0.84	0.83	0.83	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.83	0.85	0.85	0.84	0.85	0.84	0.8312.85	
9 3	247	374.51	3.80	0.84	0.84	0.84	0.85	0.86	0.84	0.84	0.84	0.85	0.85	0.85	0.85	0.86	0.82	0.84	0.84	0.85	0.83	0.84	0.84	0.86	0.85
9 4	248	0.85	0.84	0.85		0.84	0.85	0.86	0.85	0.84	0.86	0.85	0.85	0.85	0.85	0.85	0.85	0.87	0.86	0.85	0.86	0.85	0.86	0.85	0.85
9 5	249	0.85	0.85	0.86	0.86	0.85	0.85	0.86		0.85	0.85	0.86	0.85	0.86	0.85	0.85	0.84	0.85	0.85	0.86	0.84	0.83	0.84	0.86	0.84
9 6	250	0.85	0.85	0.85	0.85	0.86	0.86	0.88	0.86	0.88	0.87	0.86	0.87	0.85	0.86	0.85	0.85	0.83	0.84	0.83	0.84	0.84	0.86	0.87	0.98
9 7	251	0.91	0.88	0.879	0.11	263.1	2.75	0.85	0.85	0.83	0.86	0.84	0.85	0.85	0.85	0.86	0.83	0.85	0.85	0.85	0.86	0.87	0.86	0.87	0.86
9 8	252	0.86	0.85	0.85	0.85	0.85	0.83	0.84	0.84	0.84	0.84	0.86	0.84	0.84	0.86	0.84	0.84	0.85	0.85	0.85	0.86	0.86	0.84	0.84	0.85
9 9	253	0.84	0.85	0.85	0.85	0.86	0.87	0.87	0.84	0.85	0.84	0.85	0.86	0.85	0.86	0.85	0.84	0.84	0.85	0.85	0.85	0.84	0.85	0.86	0.86
9 10	254	0.86	0.86	0.86	0.85	0.87	0.87		0.86	0.86	0.87	0.86	0.86	0.85	0.86	0.87	0.85	0.84	0.86	0.87	0.87		0.86	0.86	0.86
9 11	255	0.85	0.86	0.85	0.85	0.87	0.87	2.28	136.9	105.6	1.13	0.85	0.85	0.86	0.87	0.85	0.86	0.87	0.85	0.86	0.88	0.87	0.87	0.87	0.88
9 12	256	0.86	0.86	0.86	0.88	0.88	0.87	0.88	0.88	0.88	0.88	0.88		0.89	0.87	0.87	0.90	0.87	0.87	0.88	0.89	0.88	0.87	0.89	0.88
9 13	257	0.87	0.87	0.88	0.88	0.88	0.89	0.89	0.89	0.87	0.88	0.90	0.91	0.89	0.87	0.87	0.87	0.86	0.86	0.86	0.86	0.86	0.85	0.86	0.85
9 14	258	0.86	0.85	0.84	0.84	0.84	0.85	0.84		0.83		0.85	0.85	0.84	0.86	0.84	0.86	0.87	0.84	0.86	0.85	0.87	0.85	0.86	0.85
9 15	259	0.86	0.89	0.87	0.87	0.86	0.86	0.87	1.20	0.95	3.67	59.72	127.13	6.22	0.89	0.87	0.87	0.88	0.86	0.86	0.86	0.87	0.87	0.88	0.89
9 16	260	0.87	0.88	0.88	0.85	0.89	0.88	0.88	0.87	0.88	0.89	0.88	0.88	0.88	0.88	0.87	0.87	0.88	0.88	0.87	0.87	0.87	0.89	0.87	0.88
9 17	261	0.87	0.88	0.89	0.87	0.87	0.88	0.88	0.88	0.88	0.88	0.88	0.89	0.88	0.88	0.88		0.89	0.88	0.89	0.88	0.89	0.89	0.89	0.98
9 18	262	0.91	0.87	0.88	0.88	0.88	0.88	0.89	0.88	0.90	0.89	0.89	0.89	0.90	0.90	0.90	0.91	0.88	0.90	0.89	0.89	0.88	0.91	0.89	0.90
9 19	263	0.91	0.91	0.90	0.90	0.90	0.91	0.91	0.90	0.91	0.90	0.93	1.17	6.76	134.2	106.1	131.1	1.87	0.91	0.92	0.91	0.92	0.90	0.94	0.91
9 20	264	0.91	0.92	0.92	0.92	0.91	0.92	0.93	0.93	0.93	0.91	0.91	0.93	0.92	0.91	0.92	0.91	0.92	0.92	0.92	0.92	0.93	0.92	0.92	0.91
9 21	265	0.92	0.93		0.91		0.94	0.94	0.91	0.94	0.94	0.93	0.95	0.95	0.93	0.94	0.93	0.93	0.94	0.93	0.93	0.91	0.93	0.93	0.92
9 22	266	0.92	0.92	0.94	0.92	0.92	0.92	0.92	0.93	0.94	0.93	0.93	0.94	0.94	0.94	0.91		0.92	0.93	0.92	0.94	0.93	0.92	0.94	0.93
9 23	267	0.92	0.93	0.94	0.94	0.91	0.92	0.91	0.93	0.92	0.92	0.98	0.93	0.94	0.91	0.93	0.93	0.92	63.51	110.7	4.28	0.92	0.94	0.94	0.93
9 24	268	0.94	0.92	0.91	0.93	0.92	0.93	0.93	0.93	0.91	0.92	0.93	0.96	0.93	0.94	0.92	0.94	0.95	0.93	0.94	0.95	0.94	0.93	0.93	0.94
9 25	269	0.95	0.93	0.94	0.94	0.93	0.94	0.94	0.91	0.93	0.94	0.94	0.95	0.94	0.96	0.93	0.95	0.95	0.94	0.94	0.94	0.94	0.96	0.94	0.95
9 26	270	0.93	0.95	0.95	0.95	0.95	0.94	0.93	0.94	0.94	0.95	0.94	0.93	0.92						0.96	0.94	0.94	0.94	0.94	0.94
9 27	271	0.92	0.93	0.93	0.94	0.93	0.95	0.93	0.92	0.94	0.95	0.94	0.95	0.93	0.95	0.92	0.93	0.94	0.93	0.94	0.94	0.94	39.84	71.51	20.84
9 28	272	0.93	0.94	0.94	0.94	0.94	0.93	0.93	0.94	0.94	0.94	0.93	0.93	0.94	0.94	0.94	0.95	0.94	0.93	0.94	0.94	0.95	0.94	0.95	0.93
9 29	273	0.95	0.95	0.97		0.97	0.93	0.96	0.97	0.96	0.95	0.95	0.95	0.95	0.95	0.94	0.95	0.96	0.94	0.94	0.94	0.95	0.94	0.96	0.95
9 30	274	0.95	0.98	0.95	0.97	0.94	0.97	0.96	0.96	0.97	0.96	0.96	0.96	0.95	0.95	0.96	0.95	0.97	0.95	0.97	0.95	0.95	0.94	0.96	0.98

SOLAR PROTONS BY SATELLITE
EXPLORER 43 (1971-19A)

SEPTEMBER 1972



SOLAR PROTONS BY SATELLITE
EXPLORER 43 (1971–19A)

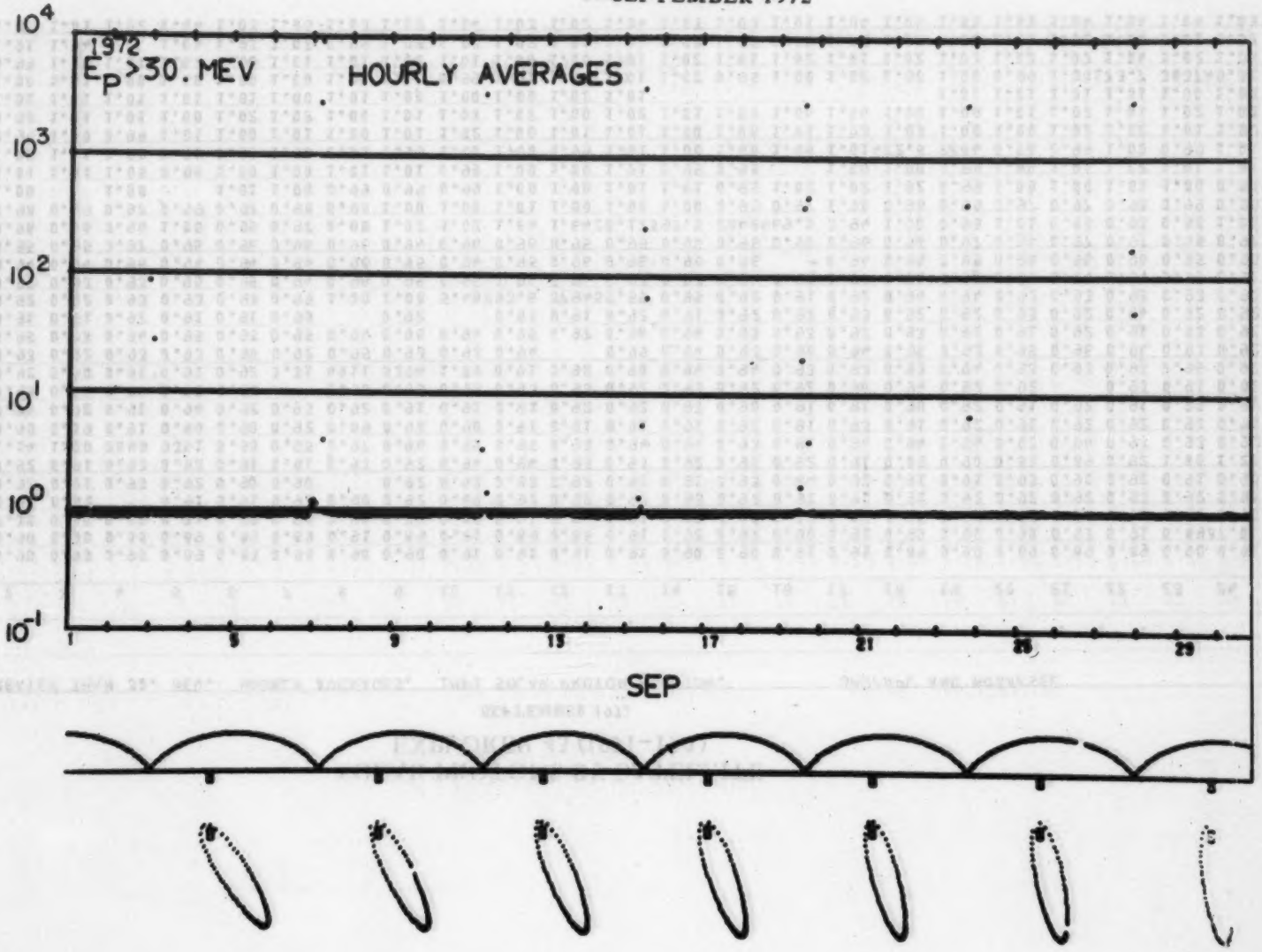
SEPTEMBER 1972

PROTON ENERGY GREATER THAN 30. MEV. HOURLY AVERAGES. IMPI SOLAR PROTON MONITOR. JHU/APL AND NOAA/SEL

YEAR	DATE	DAY OF YEAR	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
9	1	245	0.89	0.90	0.90	0.90	0.89	0.89	0.88	0.90	0.90	0.91	0.91	0.91	0.91	0.90	0.90	0.91	0.91	0.89	0.90	0.89	0.89	0.89	0.90	0.90
9	2	246	0.91	0.90	0.90	0.88	0.89	0.89	0.89	0.91	0.89	0.91	0.89	0.88	0.91	0.92	0.92	0.90	0.92	0.90	0.90	0.90	0.92	0.91	0.89	87.08
9	3	247	1340	927.38	0.90	0.89	0.91	0.90	0.91	0.91	0.90	0.89	0.91	0.91	0.91	0.92	0.92	0.89	0.92	0.92	0.93	0.92	0.91	0.91	0.92	0.92
9	4	248	0.91	0.90	0.92		0.91	0.91	0.92	0.90	0.92	0.89	0.92	0.92	0.92	0.93	0.92	0.91	0.90	0.91	0.92	0.92	0.92	0.93	0.92	0.91
9	5	249	0.90	0.92	0.91	0.93	0.92	0.90	0.90		0.92	0.93	0.93	0.92	0.92	0.91	0.93	0.94	0.92	0.91	0.91	0.93	0.90	0.92	0.91	0.90
9	6	250	0.93	0.92	0.91	0.92	0.92	0.91	0.91	0.93	0.92	0.94	0.94	0.93	0.93	0.92	0.90	0.92	0.91	0.89	0.90	0.88	0.89	0.92	1.06	1.20
9	7	251	1.22	1.14	1.00	2849	9351	3.88	0.95	0.97	0.96	0.95	0.95	0.93	0.94	0.94	0.93	0.91	0.94	0.94	0.94	0.92	0.94	0.93	0.93	0.92
9	8	252	0.93	0.90	0.89	0.91	0.90	0.90	0.92	0.89	0.92	0.90	0.91	0.91	0.91	0.91	0.92	0.91	0.93	0.91	0.92	0.91	0.92	0.92	0.93	0.91
9	9	253	0.92	0.91	0.92	0.91	0.94	0.92	0.93	0.92	0.91	0.91	0.91	0.92	0.92	0.93	0.90	0.91	0.91	0.90	0.92	0.91	0.92	0.91	0.92	0.94
9	10	254	0.93	0.93	0.94	0.94	0.92	0.93		0.93	0.95	0.93	0.93	0.93	0.92	0.93	0.92	0.92	0.90	0.94	0.92	0.92		0.93	0.91	0.92
9	11	255	0.91	0.92	0.90	0.91	0.91	0.92	3.31	4911	3394	1.39	0.91	0.92	0.90	0.94	0.94	0.93	0.93	0.93	0.94	0.93	0.93	0.93	0.96	0.92
9	12	256	0.93	0.93	0.92	0.93	0.93	0.95	0.92	0.95	0.93	0.93	0.94		0.95	0.94	0.93	0.96	0.94	0.95	0.93	0.95	0.96	0.94	0.93	0.92
9	13	257	0.95	0.95	0.93	0.94	0.95	0.93	0.95	0.94	0.96	0.94	0.95	0.97	0.96	0.94	0.93	0.93	0.92	0.93	0.91	0.91	0.92	0.91	0.93	0.92
9	14	258	0.94	0.91	0.91	0.92	0.91	0.91	0.90		0.92		0.91	0.91	0.92	0.91	0.92	0.92	0.93	0.92	0.92	0.93	0.92	0.94	0.92	0.92
9	15	259	0.93	0.92	0.92	0.93	0.93	0.93	0.95	1.30	1.08	5.48	253.6	379	465.55	0.95	0.92	0.91	0.92	0.94	0.94	0.93	0.93	0.93	0.93	0.93
9	16	260	0.95	0.95	0.93	0.93	0.95	0.95	0.94	0.96	0.95	0.95	0.94	0.94	0.93	0.93	0.94	0.93	0.96	0.96	0.94	0.95	0.94	0.94	0.95	0.92
9	17	261	0.95	0.94	0.94	0.96	0.94	0.94	0.94	0.96	0.95	0.94	0.95	0.96	0.96	0.95	0.96		0.94	0.96	0.95	0.95	0.96	0.96	0.95	0.96
9	18	262	0.96	0.95	0.95	0.97	0.95	0.96	0.96	0.96	0.94	0.96	0.96	0.95	0.95	0.95	0.96	0.95	0.96	0.96	0.97	0.94	0.97	0.97	0.98	0.97
9	19	263	0.98	0.96	0.96	0.96	1.00	0.95	0.97	1.00	1.02	1.02	1.04	1.64	20.12	393.5	2848	469.5	3.94	1.00	0.98	1.01	0.98	0.98	0.98	1.00
9	20	264	0.98	0.98	0.99	0.97	0.99	0.97	0.98	0.98	1.00	1.00	1.01	1.00	1.00	1.00	0.99	0.97	1.00	0.98	0.99	0.97	0.97	0.98	0.99	0.99
9	21	265	1.00	1.00		1.00		1.01	1.00	0.99	0.99	0.99	1.00	1.00	1.01	1.01	0.99	1.02	1.02	1.02	0.99	1.00	1.00	1.01	1.00	0.99
9	22	266	1.00	1.01	1.01	1.00	0.98	1.00	1.00	1.01	1.01	0.99	1.00	1.00	1.01	0.99	0.98		1.00	1.00	0.99	1.00	1.01	1.02	1.01	1.01
9	23	267	0.99	1.00	1.01	0.98	0.99	0.98	0.98	1.01	0.99	1.00	1.00	0.99	1.01	1.00	1.00	1.00	1.01	422.8	2884	6.56	0.99	1.00	0.99	1.01
9	24	268	1.00	0.99	1.00	0.99	1.01	1.00	1.01	1.00	1.01	1.02	1.00	1.01	1.01	1.00	1.00	1.01	1.03	1.03	1.00	1.00	1.02	1.02	1.01	1.02
9	25	269	1.00	0.98	1.01	1.01	1.00	1.02	1.02	1.00	1.01	1.03	1.02	1.00	1.02	1.01	1.00	1.04	1.00	1.00	1.00	1.01	1.02	1.01	1.02	1.02
9	26	270	1.01	1.01	1.01	1.01	1.01	1.01	1.00	1.01	1.00	1.00	1.00	1.02	1.01						1.01	1.01	1.01	1.01	1.00	1.00
9	27	271	1.00	1.00	1.01	1.00	1.00	1.00	1.00	1.00	1.02	0.99	1.01	1.01	1.01	1.02	0.98	1.00	1.02	1.00	1.00	0.99	1.00	173.7	303	749.82
9	28	272	1.00	0.99	1.00	1.01	1.02	1.00	1.01	1.01	1.02	1.01	1.00	1.00	1.01	1.02	1.01	1.02	1.01	1.02	1.03	1.03	1.03	1.04	1.02	1.03
9	29	273	1.01	1.01	1.04		1.04	1.03	1.02	0.99	1.03	1.02	1.02	1.01	1.04	1.02	1.02	1.02	1.03	1.02	1.02	1.01	1.02	1.03	1.01	1.02
9	30	274	1.02	1.03	1.01	1.02	1.04	1.03	1.06	1.03	1.02	1.04	1.03	1.02	1.04	1.03	1.03	1.01	1.04	1.05	1.02	1.03	1.04	1.04	1.04	1.03

SOLAR PROTONS BY SATELLITE
EXPLORER 43 (1971–19A)

SEPTEMBER 1972



SOLAR PROTONS BY SATELLITE
EXPLORER 43 (1971–19A)

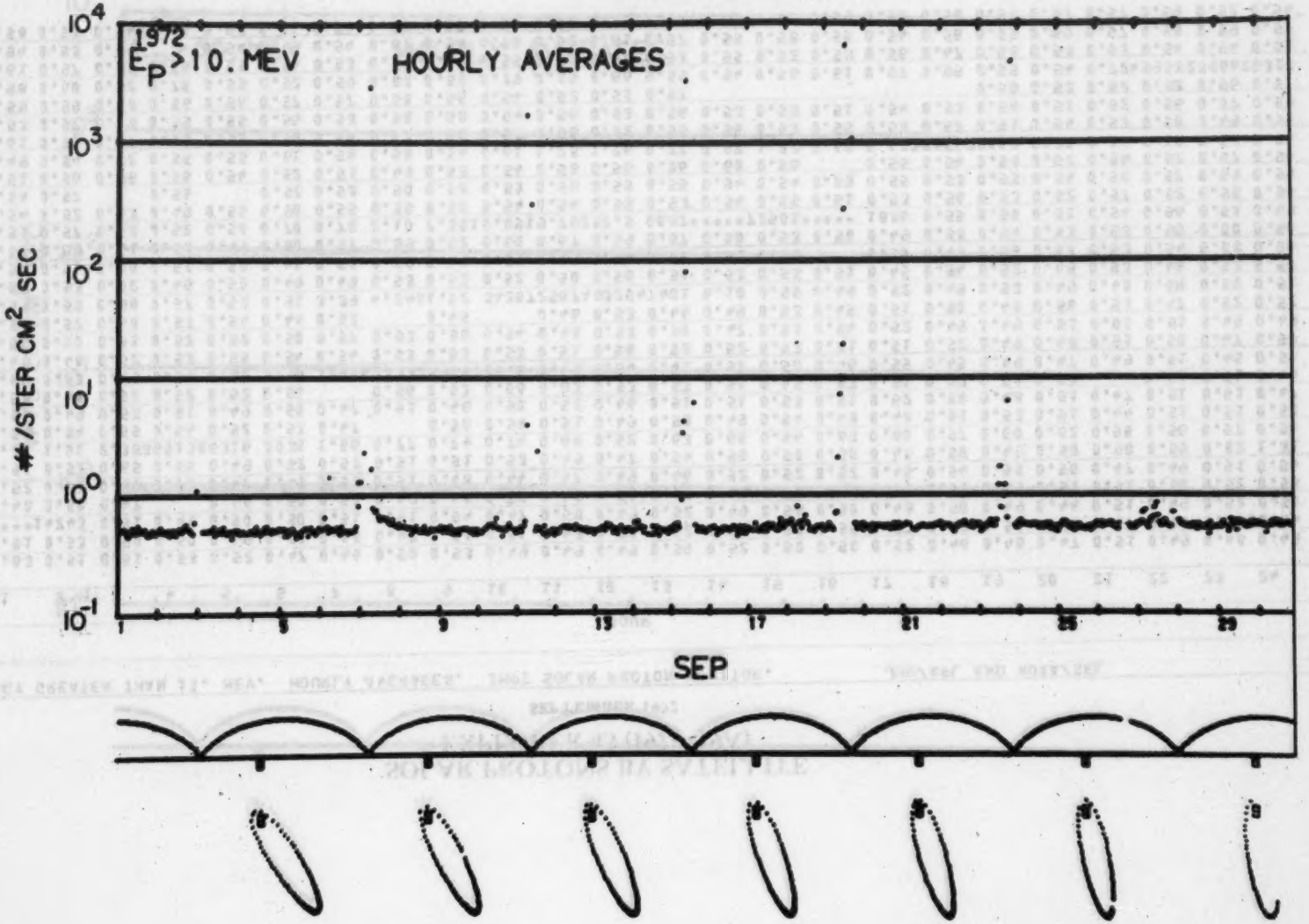
SEPTEMBER 1972

PROTON ENERGY GREATER THAN 10. MEV. HOURLY AVERAGES. IMPI SOLAR PROTON MONITOR. JHU/APL AND NOAA/SEL

YEAR DATE	1972 DAY OF YEAR	HOUR 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
9 1	245	0.63	0.51	0.51	0.53	0.52	0.47	0.46	0.50	0.53	0.49	0.49	0.49	0.56	0.52	0.50	0.50	0.52	0.46	0.46	0.47	0.51	0.49	0.48	0.49
9 2	246	0.51	0.53	0.50	0.50	0.49	0.51	0.48	0.47	0.51	0.51	0.47	0.50	0.52	0.53	0.50	0.55	0.57	0.52	0.51	0.50	0.47	0.60	1.12	13524
9 3	247	*****	14243	0.51	0.49	0.50	0.50	0.51	0.51	0.54	0.47	0.50	0.49	0.52	0.49	0.54	0.50	0.48	0.50	0.49	0.44	0.51	0.49	0.52	0.50
9 4	248	0.48	0.50	0.47		0.48	0.50	0.50	0.49	0.48	0.55	0.49	0.50	0.47	0.49	0.54	0.55	0.50	0.51	0.49	0.51	0.51	0.50	0.52	0.53
9 5	249	0.52	0.52	0.46	0.52	0.47	0.49	0.52	0.51	0.48	0.44	0.47	0.49	0.46	0.52	0.52	0.52	0.45	0.54	0.51	0.50	0.47	0.49	0.51	0.54
9 6	250	0.51	0.53	0.65	0.55	0.49	0.52	0.52	0.51	0.51	0.53	0.49	0.47	0.54	0.50	0.50	0.50	0.48	0.50	0.49	0.50	0.50	0.55	0.82	1.31
9 7	251	1.31	1.01	2.36	3651	3863	16	3038	1.66	0.77	0.74	0.74	0.68	0.62	0.63	0.66	0.64	0.63	0.60	0.57	0.60	0.62	0.56	0.56	0.57	0.54
9 8	252	0.54	0.54	0.55	0.54	0.52	0.53	0.47		0.50	0.54	0.51	0.49	0.50	0.49	0.54	0.49	0.48	0.51	0.53	0.51	0.44	0.51	0.51	0.52
9 9	253	0.54	0.49	0.53	0.51	0.49	0.55	0.47	0.51	0.46	0.50	0.52	0.46	0.51	0.51	0.53	0.51	0.52	0.50	0.48	0.51	0.47	0.51	0.51	0.47
9 10	254	0.50	0.48	0.50	0.52	0.52	0.56		0.56	0.53	0.58	0.63	0.53	0.53	0.51	0.45	0.53	0.51	0.53	0.50	0.53		0.51	0.51	0.48
9 11	255	0.49	0.53	0.49	0.54	0.60	3.96	1785	4725	3389	5530	5.8	0.49	0.54	2.41	0.52	0.50	0.46	0.55	0.45	0.49	0.47	0.49	0.51	0.46	0.51
9 12	256	0.49	0.48	0.52	0.53	0.55	0.54	0.54	0.53	0.53	0.53	0.51	0.56	0.52	0.52	0.53	0.51	0.51	0.52	0.49	0.48	0.51	0.50	0.47	0.50
9 13	257	0.50	0.50	0.51	0.53	0.52	0.50	0.57	0.53	0.56	0.54	0.48	0.53	0.50	0.47	0.51	0.54	0.52	0.49	0.49	0.51	0.51	0.51	0.49	0.49
9 14	258	0.59	0.52	0.60	0.53	0.54	0.48	0.53		0.45		0.46	0.53	0.46	0.49	0.53	0.45	0.51	0.50	0.48	0.50	0.51	0.47	0.52	0.52
9 15	259	0.49	0.55	0.50	0.57	0.52	0.91	3.39	4.24	81.52	342	872	507	483	2547	401	6.10	0.55	0.49	0.52	0.49	0.53	0.49	0.48	0.50	0.50	0.51
9 16	260	0.52	0.53	0.52	0.46	0.50	0.49	0.49	0.53	0.52	0.52	0.50	0.50	0.51	0.53	0.53	0.51	0.45	0.54	0.52	0.48	0.53	0.46	0.53	0.50
9 17	261	0.51	0.50	0.50	0.57	0.50	0.48	0.51	0.52	0.49	0.55	0.49	0.56	0.56	0.52	0.56		0.50	0.49	0.56	0.63	0.53	0.54	0.58	0.56
9 18	262	0.57	0.59	0.61	0.53	0.49	0.80	0.57	0.59	0.52	0.60	0.67	0.59	0.57	0.50	0.53	0.50	0.49	0.53	0.54	0.53	0.53	0.55	0.50	0.50
9 19	263	0.51	0.57	0.52	0.52	0.50	0.70	0.72	2.10	7.38	10.85	19.70	282.5	6687	*****	7258	1*****	1086	0.55	0.56	0.51	0.54	0.56	0.58	0.49
9 20	264	0.54	0.52	0.53	0.49	0.55	0.50	0.55	0.55	0.55	0.54	0.54	0.55	0.53	0.54	0.55	0.51	0.53	0.58	0.53	0.52	0.57	0.52	0.55	0.55
9 21	265	0.54	0.57		0.56		0.52	0.52	0.50	0.52	0.53	0.55	0.55	0.55	0.54	0.54	0.55	0.55	0.53	0.55	0.54	0.56	0.57	0.59	0.56
9 22	266	0.51	0.56	0.55	0.56	0.54	0.52	0.51	0.49	0.55	0.54	0.58	0.56	0.56	0.60	0.56		0.55	0.54	0.58	0.52	0.54	0.57	0.57	0.54
9 23	267	0.49	0.54	0.52	0.55	0.55	0.61	0.58	0.55	0.54	0.61	1.23	1.76	0.77	0.97	1.22	0.65	6.43	7565	6791	6250	2705	0.54	0.52	0.50	0.54
9 24	268	0.61	0.55	0.57	0.56	0.56	0.56	0.55	0.57	0.56	0.57	0.56	0.52	0.55	0.56	0.53	0.55	0.58	0.57	0.51	0.54	0.53	0.50	0.49	0.55
9 25	269	0.53	0.57	0.59	0.59	0.55	0.56	0.53	0.56	0.50	0.54	0.56	0.53	0.56	0.53	0.53	0.51	0.54	0.53	0.54	0.51	0.52	0.56	0.57	0.59
9 26	270	0.55	0.59	0.53	0.56	0.56	0.57	0.57	0.58	0.56	0.54	0.52	0.51	0.57						0.55	0.53	0.52	0.53	0.56	0.57
9 27	271	0.56	0.60	0.72	0.75	0.55	0.52	0.59	0.62	0.65	0.79	0.85	0.66	0.59	0.54	0.56	0.61	0.57	0.55	0.55	0.54	0.72	4595	3239	6626312
9 28	272	0.61	0.57	0.55	0.56	0.55	0.54	0.53	0.55	0.57	0.55	0.52	0.57	0.53	0.55	0.53	0.53	0.56	0.47	0.58	0.53	0.53	0.54	0.54	0.55
9 29	273	0.54	0.53	0.59		0.54	0.49	0.54	0.62	0.58	0.56	0.50	0.61	0.57	0.58	0.58	0.55	0.54	0.56	0.55	0.60	0.57	0.58	0.59	0.55
9 30	274	0.58	0.57	0.54	0.48	0.53	0.54	0.59	0.55	0.57	0.61	0.56	0.59	0.55	0.55	0.58	0.59	0.58	0.56	0.55	0.57	0.57	0.59	0.52	0.54

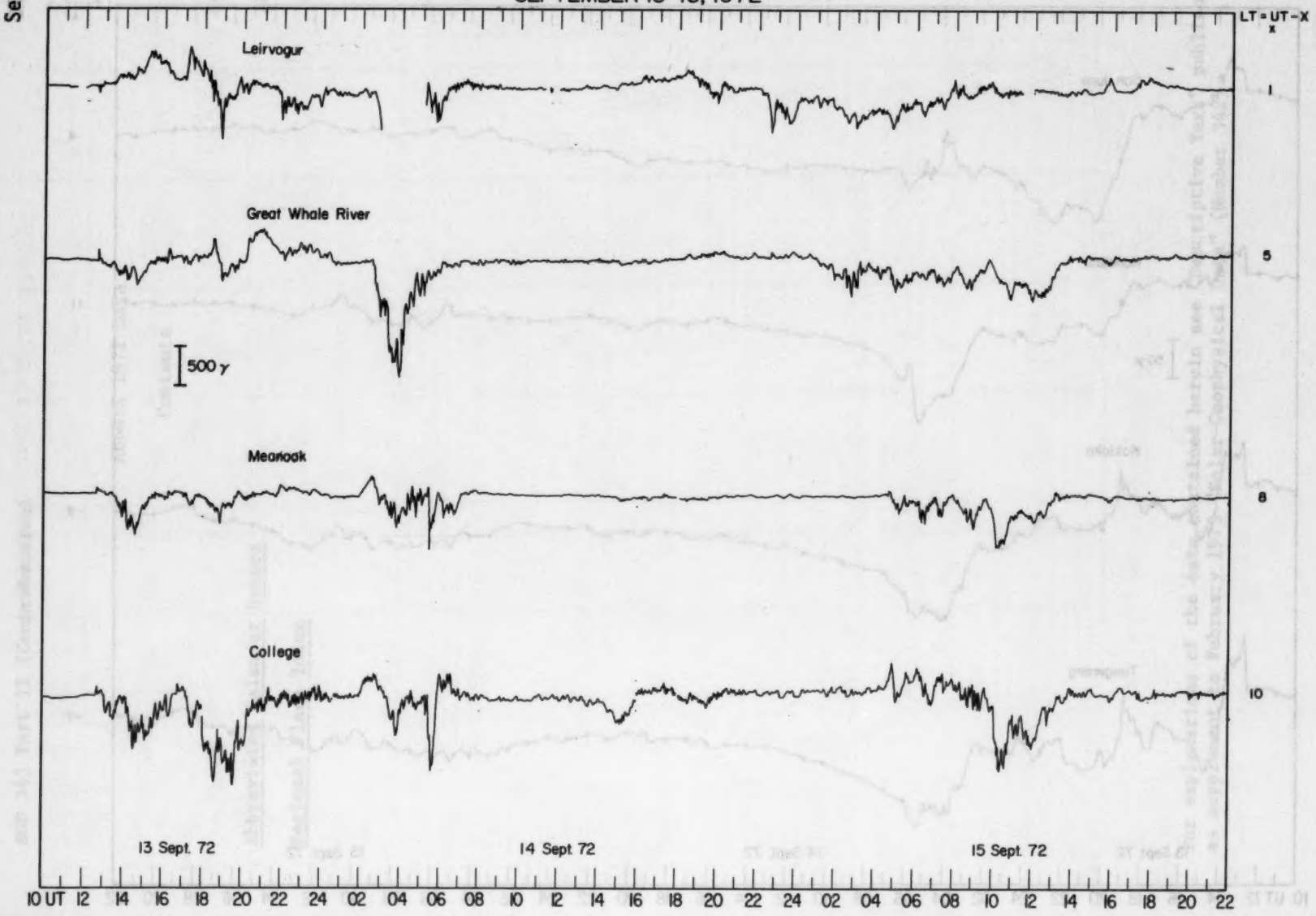
SOLAR PROTONS BY SATELLITE
EXPLORER 43 (1971-19A)

SEPTEMBER 1972

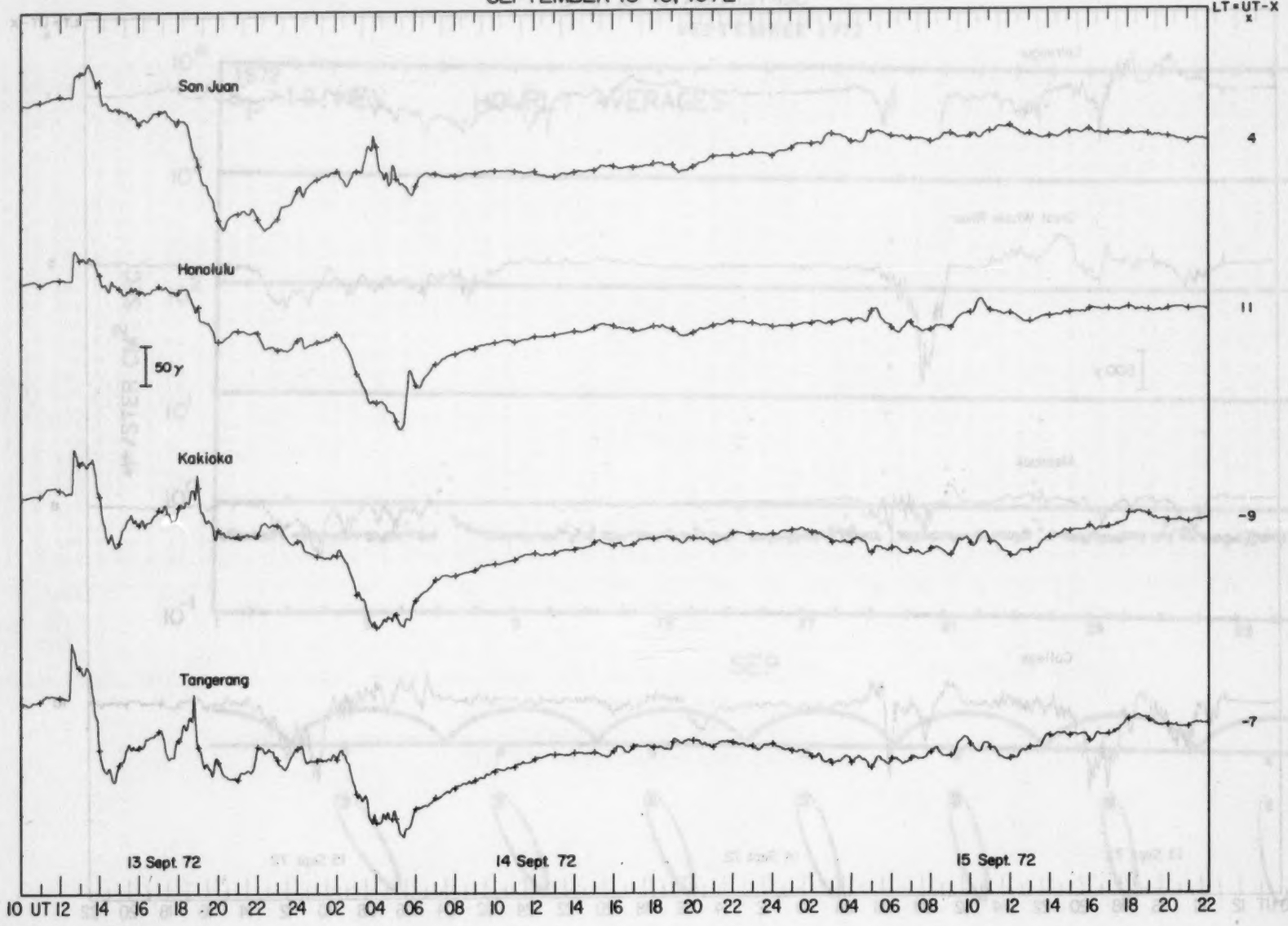


55
Sep 72

MAGNETOGRAMS OF GEOMAGNETIC STORMS
SEPTEMBER 13-15, 1972



MAGNETOGRAMS OF GEOMAGNETIC STORMS
SEPTEMBER 13-15, 1972



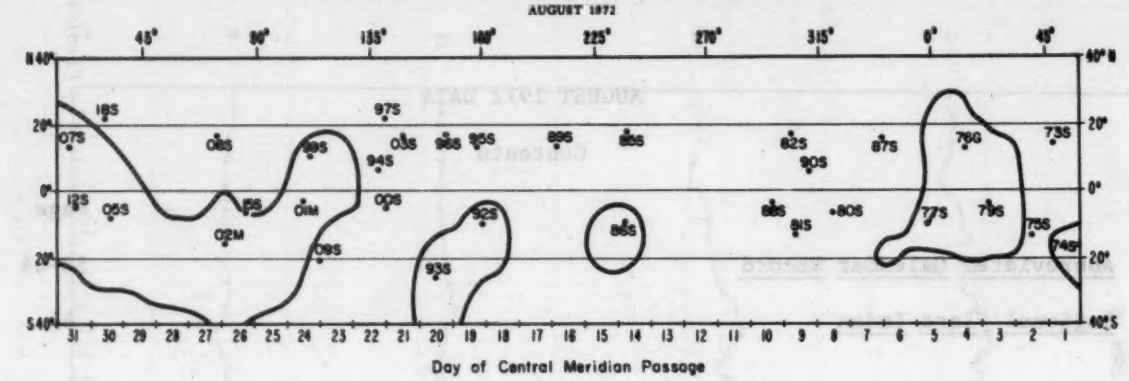
AUGUST 1972 DATA

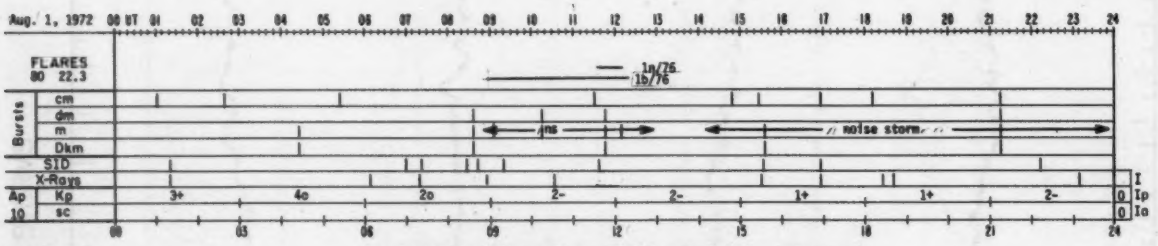
Contents

	Page
Abbreviated Calendar Record	58-64
Regional Flare Index	65

For explanations of the data contained herein see "Descriptive Text" published as supplement to February 1973 "Solar-Geophysical Data" (Number 342).

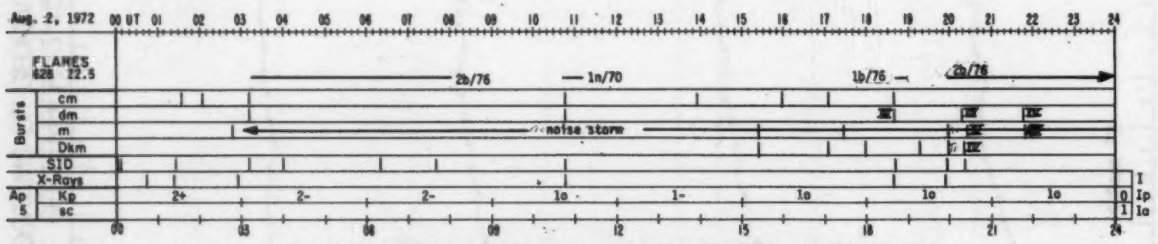
ABBREVIATED CALENDAR RECORD





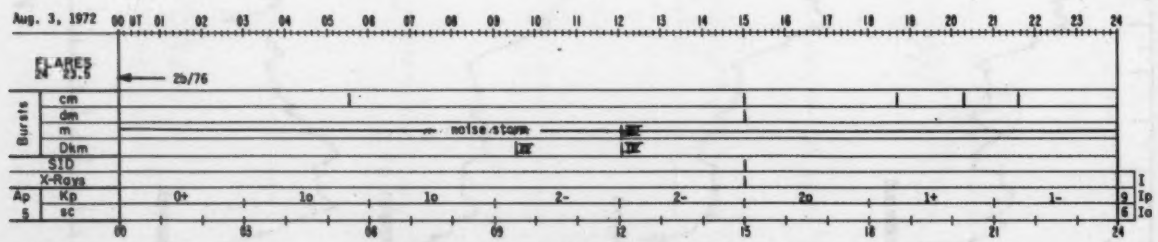
152 10 cm flux
93 Rz
CMP 11974 S17 18930 S18 (β)3 CMP July 31
18936 S20 (βf)2
11973 N15 (2)

Br. green corona 7 days earlier on NE limb, moderately br. green corona 7 days earlier on SE limb, very br. green corona 7 days later on SW limb and moderately br. green corona 7 days later on NW limb.



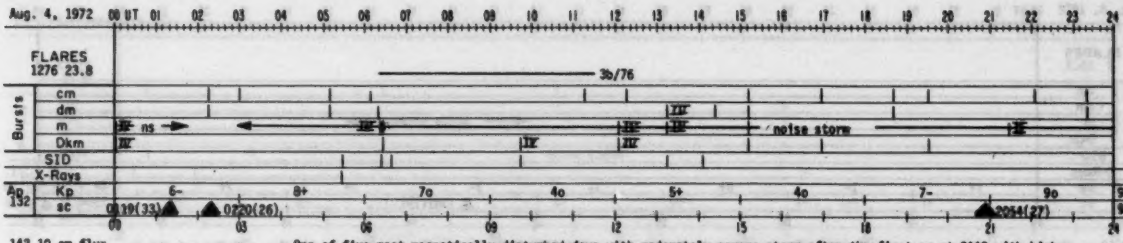
146 10 cm flux
81 Rz
CMP 11975 S14

One of ten most magnetically quiet days; no coronal data 7 days earlier on E. limb, br. green corona 7 days later on NW limb and moderately br. green corona 7 days later on SW limb.



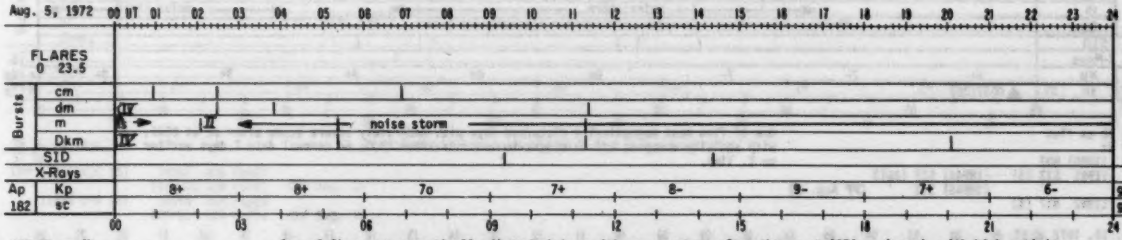
143 10 cm flux
85 Rz
CMP 11979 S04 18934 S04 (βp)4
18938 S08 (βγ)3 CMP Aug. 4

One of five most magnetically quiet days; no coronal data 7 days earlier on E. limb, very br. green corona 7 days later on NW and SW limb.



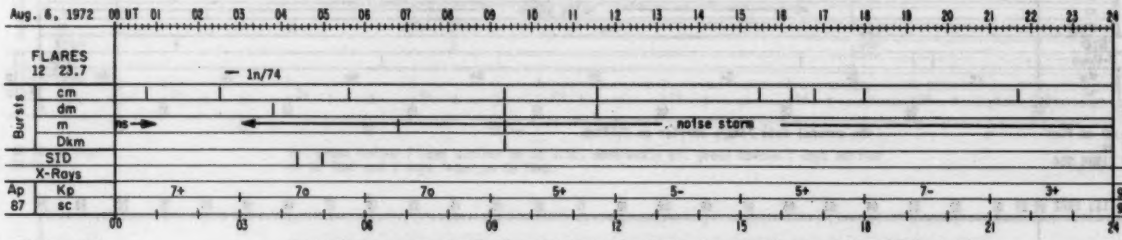
142 10 cm flux
80 Rz
CMP 11976 N13 (2) 18935 N12 δ
18937 N08 (βp)2 CMP Aug. 3
(18942) N08 (αp)2 CMP Aug. 5

One of five most magnetically disturbed days with moderately severe storm after the first sc at 0119 with high activity continuing all day; auroral light visible over Western Europe to $\phi = 55°$ to an elevation of 30° 0000-0012, a major auroal display visible over whole region of Western Europe during all dark hours of Aug. 4-5 with multiple rayed bands, with strong red coloration, persisted overhead to ϕ north of 55°, two homogeneous arcs, sometimes bands, appeared during the later part of the night with the maximum occurring around midnight when rays were visible as far south as $\phi = 43°$; cosmic ray decrease of about 14% begins suddenly, reaches a maximum just after 0000 on Aug. 5 and returns to normal Aug. 15; a very large proton flux increase on >10 Mev, >30 Mev and >60 Mev counters on Explorer 41 begins before middle of day, reaches a maximum near end of day and sharply begins to return to normal when another event begins on Aug. 7; no coronal data 7 day earlier on E. limb.



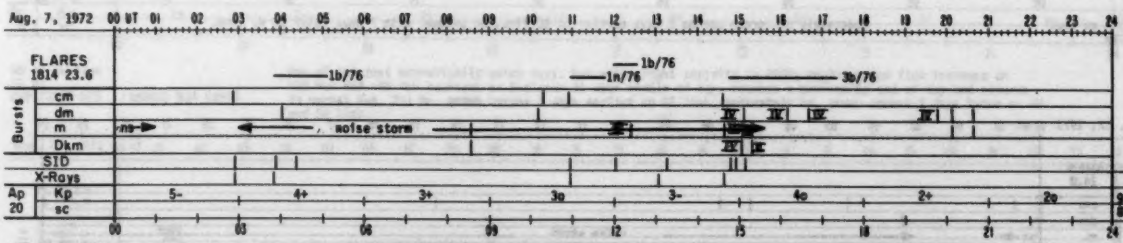
142 10 cm flux
93 Rz
CMP 11977 S10 (3) 18939 S09 αp
(18940) S12 α
18941 S07 (βf)2

One of five most magnetically disturbed days with severe storm after the sc at 2054 on Aug. 4, with high activity continuing all day; a major auroral display visible over whole region of Western Europe during all dark hours of Aug. 4-5, with two homogeneous arcs, sometimes bands, appearing during the later part of the night, with the maximum occurring around midnight when rays were visible as far south as $\phi = 43°$; cosmic ray decrease that began Aug. 4 reaches a maximum just after 0000; moderately br. green corona 7 days earlier on NE limb, no coronal data 7 days later on W. limb.



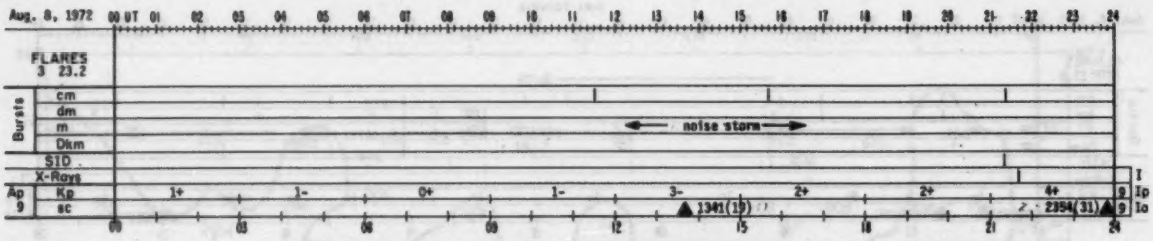
139 10 cm flux
85 Rz

One of five most magnetically disturbed days with moderate-to-moderately severe storm lasting to 2100; widespread auroral glow over W. Europe seen through cloud 0145-0250; over W. Atlantic a homogeneous auroral band with base overhead to $\phi = 62°$ visible at 0630 and rays visible up to 22° in elevation at $\phi = 52°$ 0815-0825; no coronal data 7 days earlier on E. limb, nor 7 days later on W. limb.



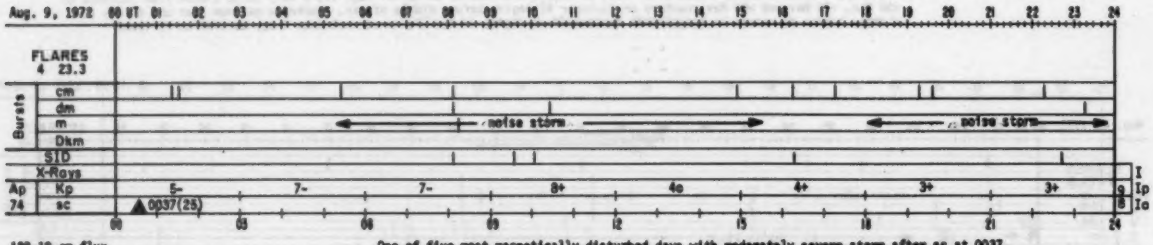
135 10 cm flux
65 Rz
CMP (11987) N16 (18943) N15 (βp)3 CMP Aug. 6

Large proton flux increase on >10 Mev, >30 Mev and >60 Mev counters on Explorer 41 begins near middle of day, reaches maximum on Aug. 8 and sharply begins to return to normal; moderately br. green corona 7 days earlier on SE limb, no coronal data 7 days later on W. limb.



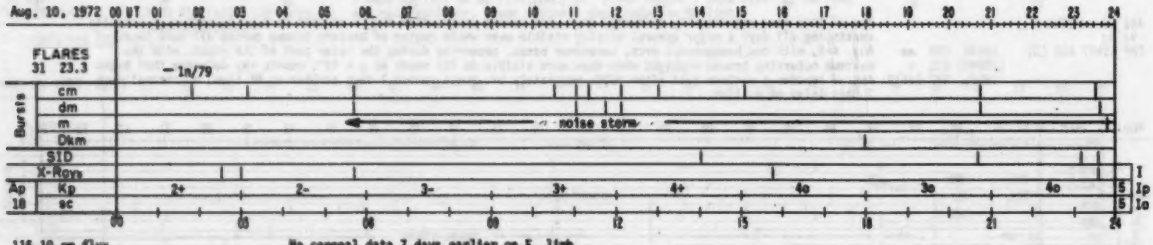
122 10 cm flux
56 Rz
CMP 11980 S07 (2)

Auroral glow seen over W. Europe to ϕ = 57° 2145-2245; proton flux increase on >10 Mev, >30 Mev and >60 Mev counters on Explorer 41 which began Aug. 7, reaches a maximum and sharply begins to return to normal; no coronal data 7 days earlier on E. limb, nor 7 days later on W. limb.



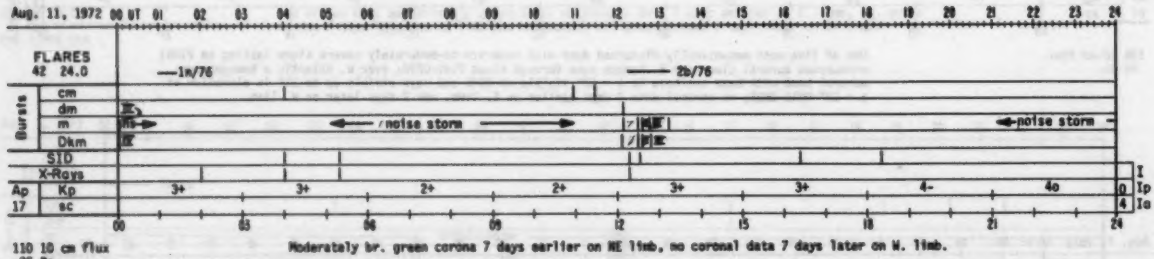
120 10 cm flux
59 Rz
CMP (11990) H07
11981 S13 (5) (18944) S17 (Bp)3
(18946) S11 CMP Aug. 10
11982 N17 (5)

One of five most magnetically disturbed days with moderately severe storm after sc at 0037, with activity dropping off to slight-to-moderate after 1800; no coronal data 7 days earlier on E. limb.



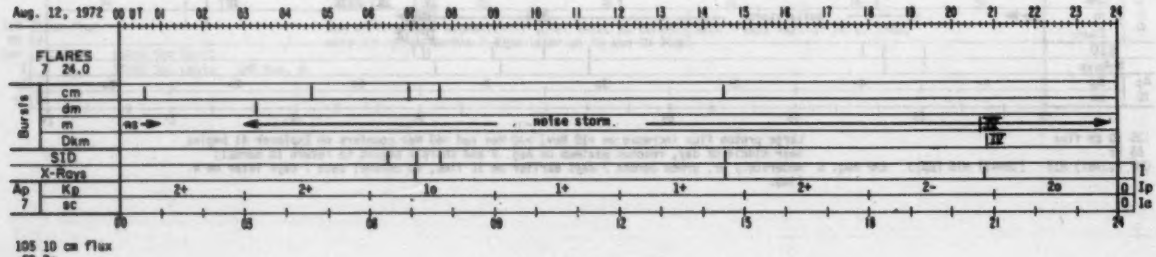
116 10 cm flux
44 Rz
CMP 11988 S04

No coronal data 7 days earlier on E. limb.

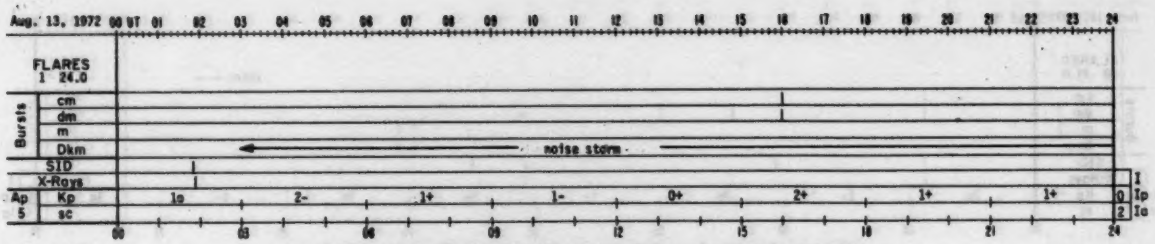


110 10 cm flux
25 Rz

Moderately br. green corona 7 days earlier on NE limb, no coronal data 7 days later on W. limb.

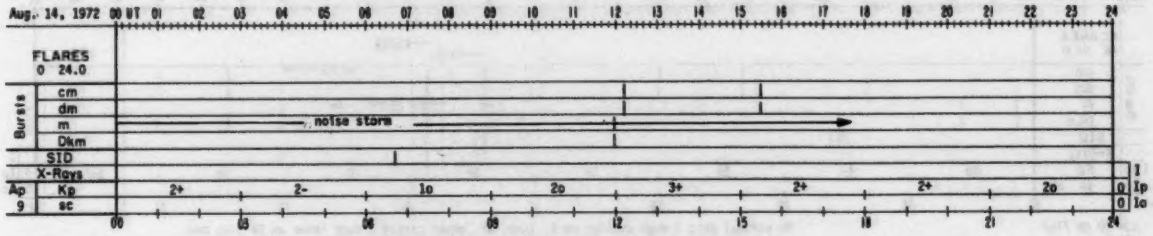


105 10 cm flux
50 Rz



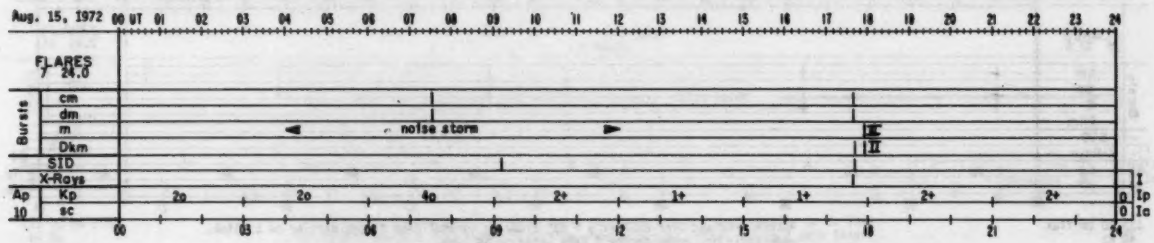
99 10 cm flux
55 Rz

One of five most magnetically quiet days; moderately br. green corona 7 days earlier on NE and SE limb and 7 days later on NW limb.



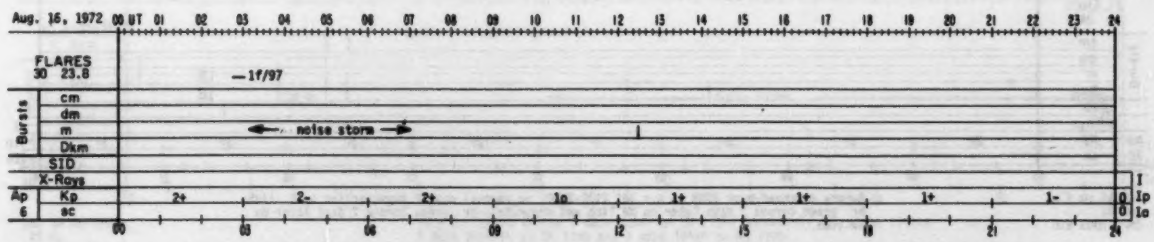
95 10 cm flux
37 Rz
CMP 11985 N18 (2) 18947 N16 (Bp)3
(18950) N19 (af)1 CMP Aug. 13
11986 S10 (3) 18946 S10 (ap)3
(18952) S13 (af)1 CMP Aug. 15

Moderately br. green corona 7 days later on SW limb.



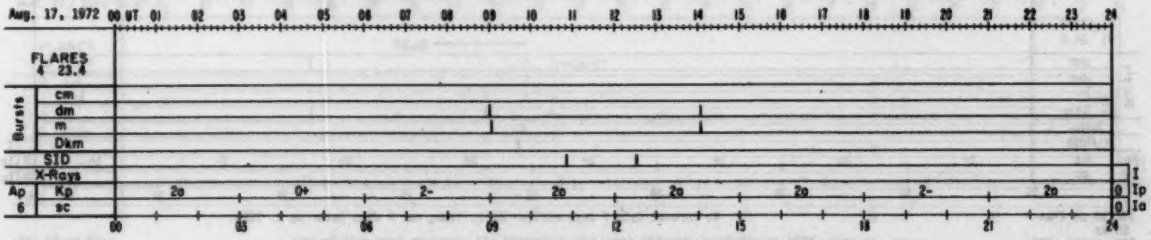
95 10 cm flux
39 Rz

Br. green corona 7 days earlier on SE limb, moderately br. green corona 7 days earlier on NE limb and 7 days later on SW limb.



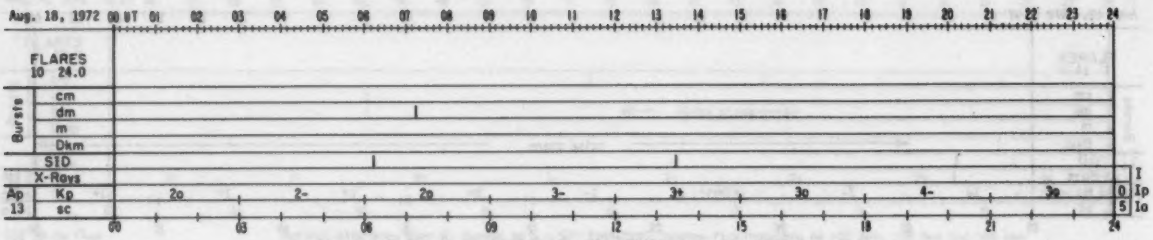
98 10 cm flux
57 Rz
CMP 11989 N14 (18948) N14 (Bp)4

One of ten most magnetically quiet days, but with slight activity to 0900; small proton flux increase on >10 Mev and >30 Mev counters on Explorer 41 near middle of day, reaches a maximum by end of day and returns to normal Aug. 21; br. green corona 7 days earlier on SE limb, moderately br. green corona 7 days later on NW and SW limb.



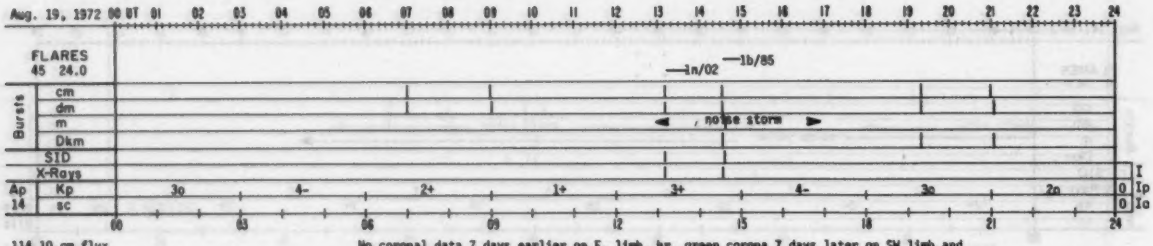
104 10 cm flux
62 Rz

One of ten most magnetically quiet days, but with slight activity nearly all day; br. green corona 7 days earlier on SE limb and 7 days later on SW limb.



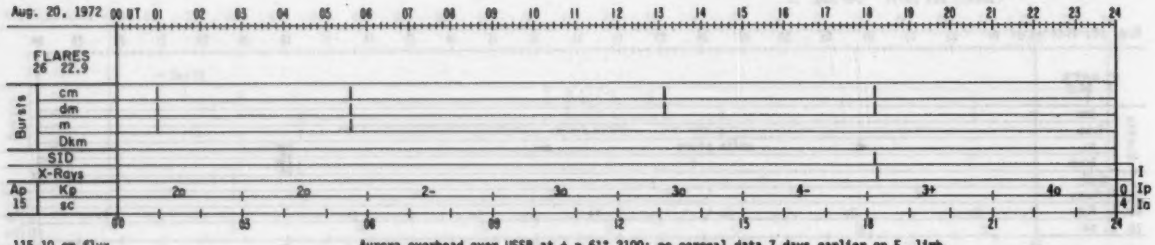
107 10 cm flux
82 Rz

Rayed auroral band low on northern horizon over N. Europe with rays sometimes reaching 25° in elevation at ϕ = 59° 2330-2345; moderately br. green corona 7 days earlier on SE limb.



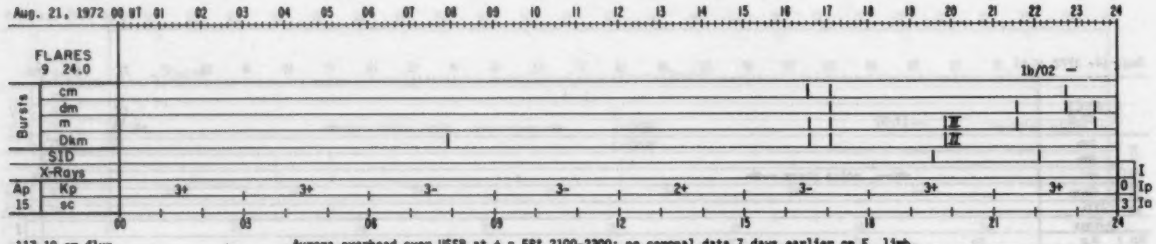
114 10 cm flux
54 Rz
CMP 11992 S10 18953 S11 βp CMP Aug. 18
11995 N14 (5)

No coronal data 7 days earlier on E. limb, br. green corona 7 days later on SW limb and moderately br. green corona 7 days later on NW limb.



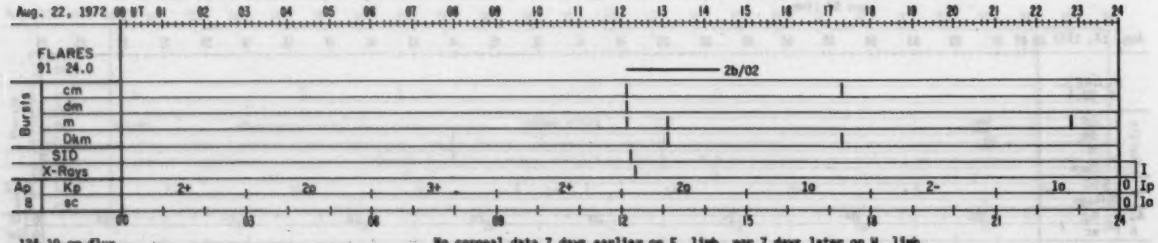
115 10 cm flux
48 Rz
CMP (11996) N17
11993 S26 18949 S24 αp

Aurora overhead over USSR at ϕ = 61° 2100; no coronal data 7 days earlier on E. limb, moderately br. green corona 7 days later on SW limb.



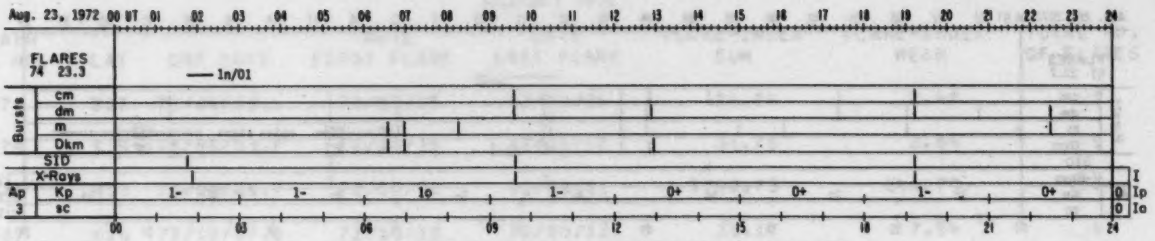
117 10 cm flux
60 Rz
CMP 12003 N16

Aurora overhead over USSR at ϕ = 58° 2100-2300; no coronal data 7 days earlier on E. limb, br. green corona 7 days later on NW limb and moderately br. green corona 7 days later on SW limb.



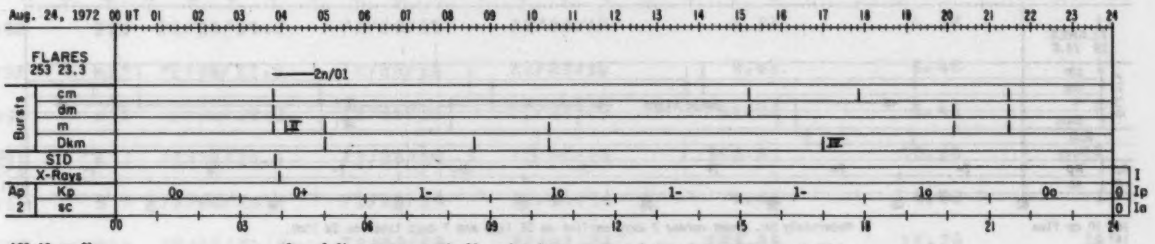
124 10 cm flux
85 Rz
CMP 11997 N22
(12000) S05
11994 N07 (2,3&4) (18951) N08 (αp)2 CMP Aug. 21

No coronal data 7 days earlier on E. limb, nor 7 days later on W. limb.



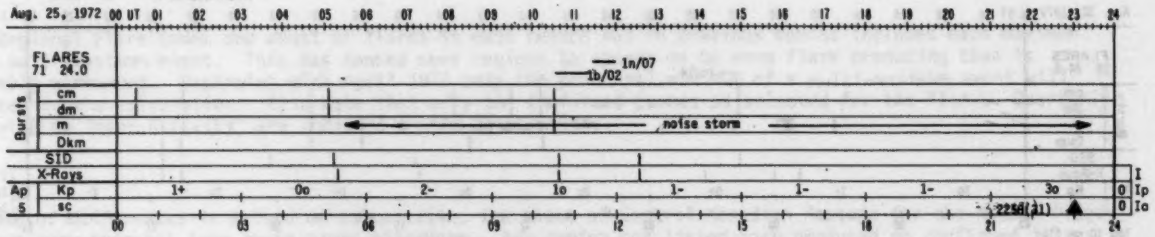
120 10 cm flux
71 Rz

One of five most magnetically quiet days; no coronal data 7 days later on W. limb.



120 10 cm flux
82 Rz
CMP (12009) S20
11999 N10
12001 S03
18955 N10 (βp)5
18954 S04 (βp)3

One of five most magnetically quiet days; no coronal data 7 days later on W. limb

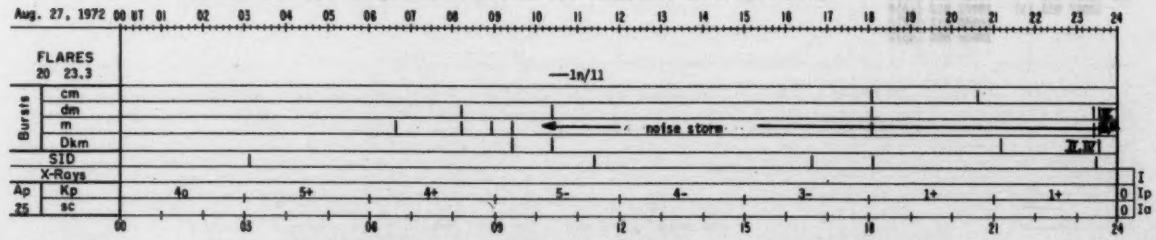


125 10 cm flux
64 Rz

One of five most magnetically quiet days; no coronal data 7 days earlier on E. limb, br. green corona 7 days later on SW limb, moderately br. green corona 7 days later on NW limb.

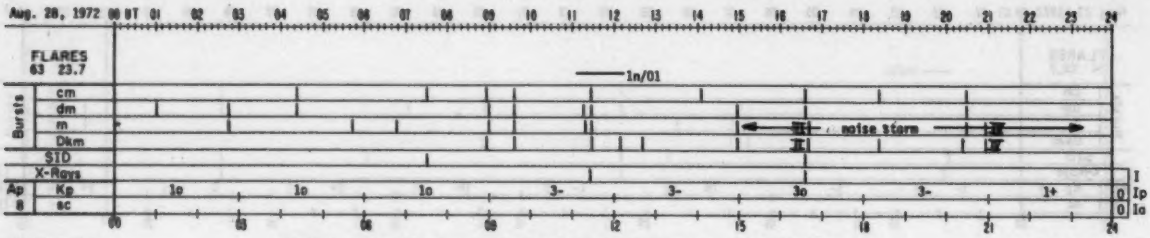
135 10 cm flux
79 Rz
CMP (12015) S07
12002 S16 (2)
(18963) S08 (βf)3
18956 S17 (β)5 CMP Aug. 27
18957 S15 β
18959 S18 (αp)1 CMP Aug. 28

Very br. green corona 7 days later on SW limb, moderately br. green corona 7 days earlier on SE limb and 7 days later on NW limb.



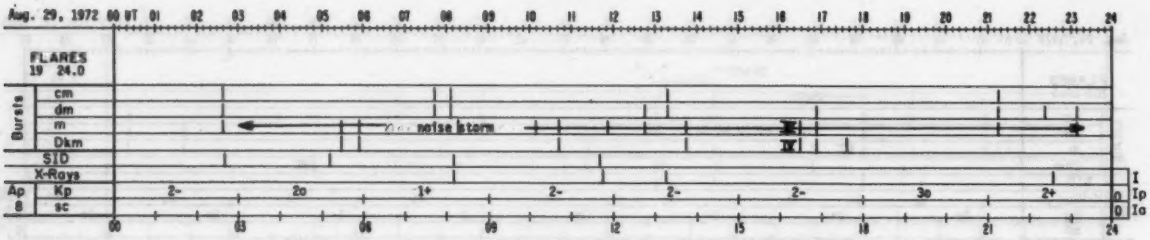
141 10 cm flux
89 Rz
CMP 12008 N17
18960 N18 (βf)1

One of five most magnetically disturbed days with moderate activity to 1500; very br. green corona 7 days later on SW limb, moderately br. green corona 7 days earlier on SE limb and 7 days later on NW limb.



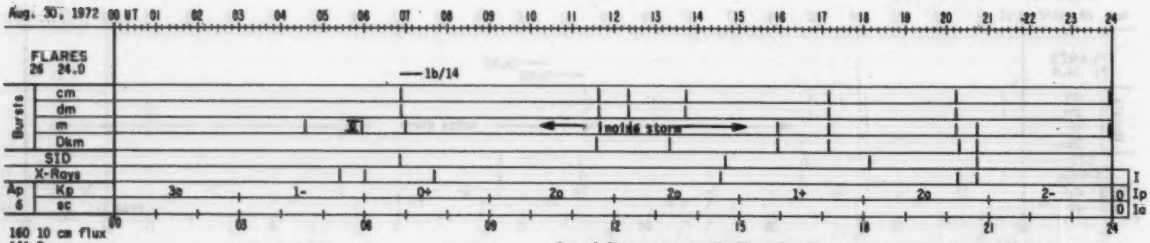
144 10 cm flux
113 Rz

Moderately br. green corona 7 days earlier on SE limb.



160 10 cm flux
147 Rz

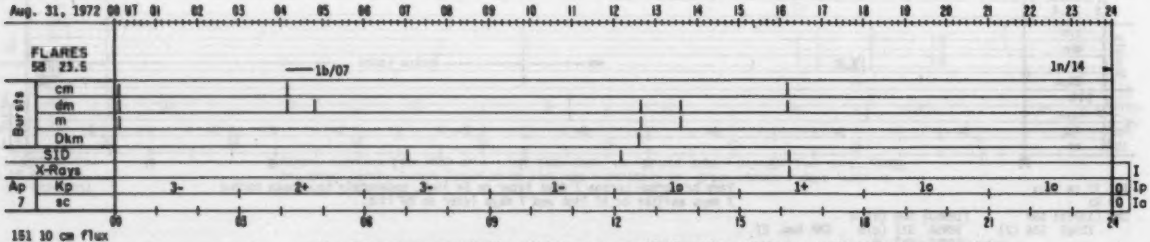
Moderately br. green corona 7 days earlier on SE limb and 7 days later on SW limb.



160 10 cm flux
141 Rz

CMP 12005 S08 (2) 18958 S07 (ap)4 CMP Aug. 29 (18972) S07 (ß)4
18964 S14 (Bp)2 CMP Aug. 29 (18973) S02 (af)2
(18965) N00 (ap)1 CMP Aug. 29
(12018) N22

One of five most magnetically quiet days; aurora overhead over USSR at ϕ = 61° 2100; very br. green corona 7 days earlier on NE and SE limb. no coronal data 7 days later on W. limb.



151 10 cm flux
137 Rz

CMP 12012 S05 18967 S05 (ap)2
12007 N13 (3) 18961 N13 (Bp)4
18966 N12 (af)2
18969 N06 (ap)2

One of ten most magnetically quiet days; aurora overhead over USSR at ϕ = 63° 2100; very br. green corona 7 days earlier on NE and SE limb, moderately br. green corona 7 days later on NW limb.

REGIONAL FLARE INDEX

AUGUST 1972

MC MATH PLAGE NO.	LAT	CMP DATE	DATE FIRST FLARE	DATE LAST FLARE	FLARE-INDEX SUM	FLARE-INDEX MEAN	TOTAL NO. OF FLARES
11974	S17	72/08/01.1	72/07/28	72/08/06	24.04	2.40	3
11979	S 5	72/08/03.7	72/07/30	72/08/10	31.70	2.64	9
11976	N13	72/08/04.7	72/08/01	72/08/11	3792.73	344.79	23
11987	N16	72/08/07.0	72/08/10	72/08/13	30.17	7.54	4
11985	N16	72/08/14.7	72/08/17	72/08/20	30.59	7.65	6
11989	N14	72/08/16.8	72/08/16	72/08/16	20.86	20.86	2
11992	S10	72/08/19.2	72/08/15	72/08/15	4.37	4.37	1
11997	N22	72/08/22.0	72/08/16	72/08/16	9.48	9.48	1
11994	N 7	72/08/22.3	72/08/15	72/08/29	51.86	3.46	6
12001	S 3	72/08/24.4	72/08/19	72/08/28	350.61	35.06	7
12015	S 7	72/08/26.3	72/08/29	72/08/29	4.86	4.86	1
12002	S16	72/08/26.9	72/08/19	72/08/29	200.84	18.26	15
12005	S 8	72/08/30.4	72/08/25	72/09/06	46.88	3.61	8

Note:
The Regional Flare Index and count of flares in each region has in previous months included each maximum of a multi-maximum event. This has caused some regions to appear to be more flare producing than is probably warranted. Beginning with April 1972 only the principal maximum of a multi-maximum event will be used in the calculation. Also note that only the Confirmed Events as selected for the "I.A.U. Quarterly Bulletin on Solar Activity" are included in the calculation.

Because of differences in method of calculation, the dates of Central Meridian Passage for the McMath Plage Regions vary somewhat from those given elsewhere. Any region not listed here produced no confirmed flares during its disk passage.

REGIONAL FLARE INDEX

AUGUST 1972

ID. DATA		DATE		DATE		FLARE-INDEX	FLARE-INDEX	TOTAL NO.
FLARE NO.	LAT	CMP DATE	FIRST FLARE	LAST FLARE	SUM	MEAN	OF FLARES
11974	S15	72/08/01.1	72/08/01	72/08/02	6.35	2.12	3
11979	S 7	72/08/03.7	72/08/03	72/08/03	11.25	5.63	2
11978	N12	72/08/04.2	72/08/03	72/08/05	1251.25	89.37	14
11977	N18	72/08/07.9	72/08/07	72/08/12	31.19	10.39	3
11984	N16	72/08/14.7	72/08/13	72/08/20	30.75	7.69	4
11983	N14	72/08/16.3	72/08/16	72/08/16	20.00	20.00	1
11992	S10	72/08/19.2	72/08/19	72/08/20	6.37	6.37	1
11997	N22	72/08/22.3	72/08/18	72/08/28	5.00	0.69	7
11996	N 7	72/08/25.2	72/08/23	72/08/28	31.50	6.30	5
12013	S 7	72/08/26.7	72/08/26	72/08/26	106.63	26.66	4
12012	S 7	72/08/29.4	72/08/29	72/08/29	6.38	6.38	1
12016	N14	72/08/29.9	72/08/29	72/08/29	106.88	53.44	2
12015	S 7	72/08/30.4	72/08/29	72/08/30	46.88	9.38	5

MISCELLANEOUS DATA

Contents

Page

Cosmic Rays
Neutron Monitors -- Dallas - December 1972 (Addenda) 69

For explanations of the data contained herein see "Descriptive Text" published as supplement to February 1973 "Solar-Geophysical Data" (Number 342).

COSMIC RAY INDICES
DALLAS SUPER NEUTRON MONITOR

DECEMBER, 1972

DATE	DAILY AVERAGE COUNTS / HOUR	DATE	DAILY AVERAGE COUNTS / HOUR
1	6327.1	16	6299.6
2	6316.4	17	6292.8
3	6342.8	18	6311.4
4	6345.4	19	6307.0
5	6346.3	20	6341.1
6	6341.0	21	6363.7
7	6349.9	22	6349.8
8	6280.4	23	6242.5
9	6290.2	24	6272.2
10	6304.0	25	6279.8
11	6269.2	26	6317.3
12	6293.8	27	6335.6
13	6375.8	28	6291.3
14	6344.9	29	6377.4
15	6314.6	30	6313.2
		31	6326.2

SCALING FACTOR 120

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